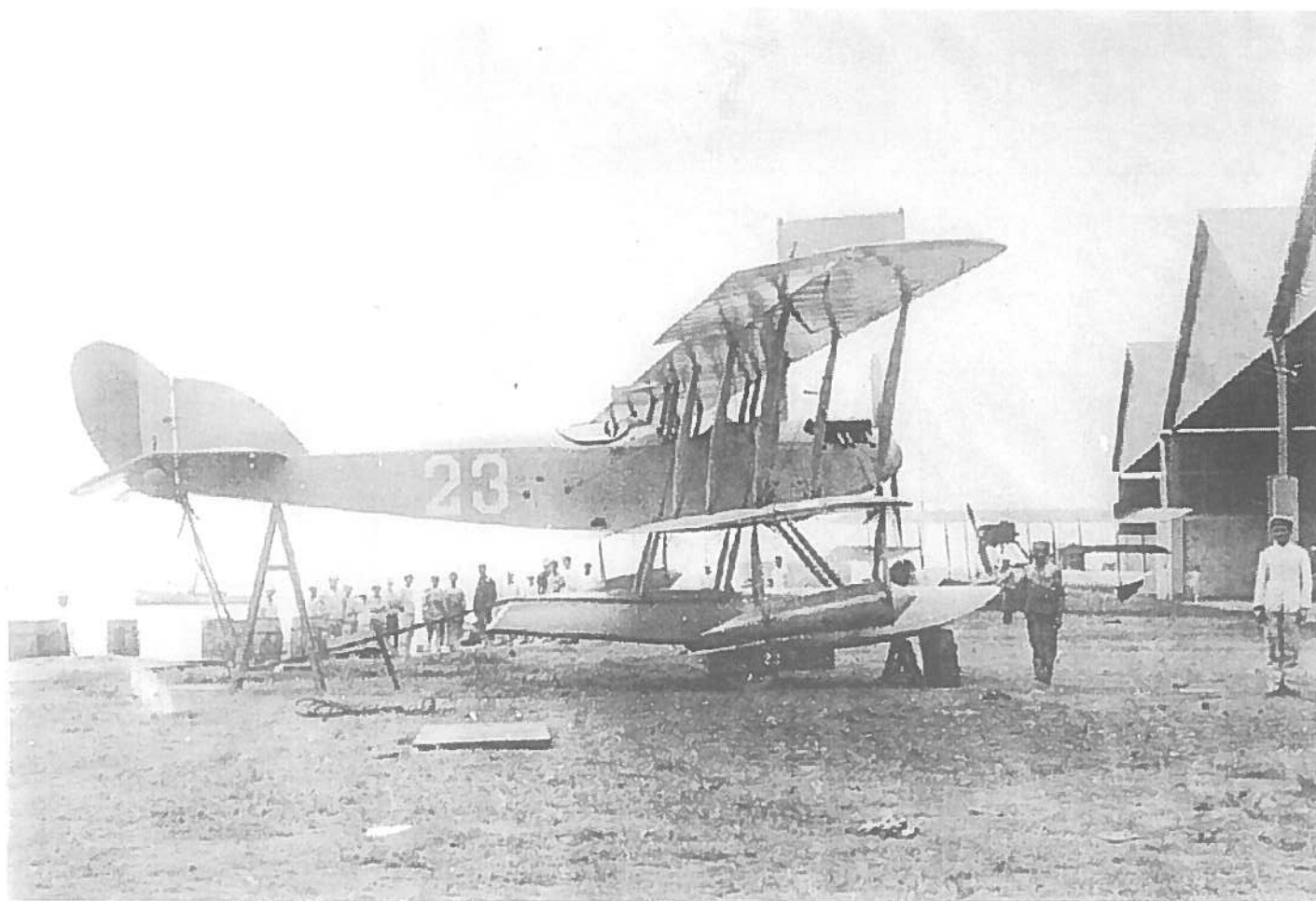


# small air forces observer

vol. 25 no. 4 (100)  
December 2001

US \$5.00



A Soviet Pilot in the Spanish Civil War  
Small Air Force Focke Wulf Fw 58 Weihe  
Stearman PT-17 (Bolivia & Mexico)  
Fuerza Aerea Dominicana Update  
Fairchild Model 24 Floatplane  
Polikarpov I-16s in China  
Roots of Resin Modeling  
Swedish Heinkel HD 24

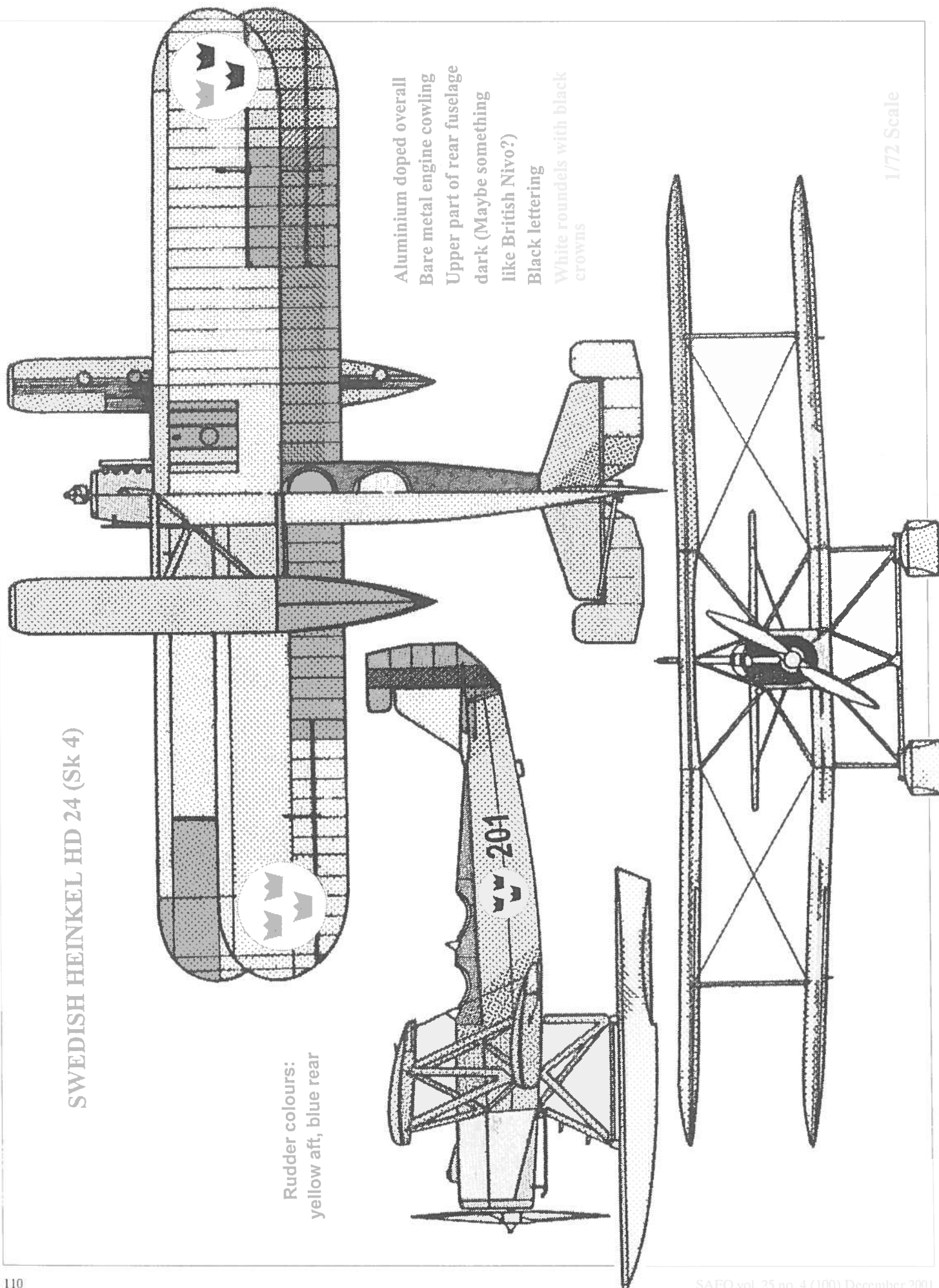
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# SWEDISH HEINKEL HD 24 (Sk 4)

Rudder colours:  
yellow aft, blue rear

Aluminium doped overall  
Bare metal engine cowlings  
Upper part of rear fuselage  
dark (Maybe something  
like British Nivo?)  
Black lettering  
White roundels with black  
crowns



1/72 Scale

# SMALL AIR FORCES OBSERVER

## The Newsletter of the Small Air Forces Clearing House

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**SAFO EDITORIAL POLICY:** The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material. Article published in SAFO can be reprinted provided permission of the author is obtained and the SAFO is identified in the reprint.

**SUBSCRIPTION RATE:** Subscription to the current volume of the SAFO is US \$14.00 for 4 issues in the USA and elsewhere via surface mail. For the cost of air mail delivery, contact the editorial office, or send \$26.00 and any surplus will be credited to your account. Payment should be made in cash, by International Money Order, or by a check drawn on a bank with a subsidiary in the US made payable to "Jim Sanders". New subscriptions begin with the

next issue published after payment is received; if you desire otherwise, please specify which issues are desired. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA.

**BACK ISSUES:** Either back issues or Xerox copies of out-of-print issues are available for all issues of the SAFO published at \$3.25 each. For a list of all issues and their content, send two 1st class stamps (or 2 IRCs) to the editorial office.

**INFORMATION FOR AUTHORS:** Manuscripts may be submitted in any form; authors whose first language is not English may submit a rough translation of the text and the editorial office will put it into good English. Authors using a computer should send the manuscript on disc. Photo should be black and white prints although color prints can be used. If you want any photos returned, please mark "Return" on the back. All art work must be ready for printing. The layout should be such that when a page is reduced (if necessary) the drawing should fit into the 7.5 inch by 10 inch working area of the final page. Art work that does not fit this requirement will have to be cut and pasted to fit; no problem, but things might not look exactly as you want them to look. All work for the SAFO is voluntary and no payment can be made for published material.

**Centennial Index:** To celebrate the 100th issue of SAFO, I am pleased to announce the availability of an index of all illustrations (both photos and drawings) of aircraft that have appeared in SAFO over the last 25 years. This index is available either as a Microsoft Excel file or as hard copy. The Excel file is free: just send a formatted 3.25 inch floppy disc along with sufficient stamps or money to cover the return postage. The 40-page hard copy is available for \$4.00 plus postage. For hard copy, please indicate whether you want

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**LOST MEMBERS:** Anyone knowing the whereabouts of the following 'lost' SAFCH members please inform the editorial office (last known address included): Alain La Pierre, Maracay, Venezuela; Jaroslav Kusmirek, Lubartow, Poland; Jean Paul Castella, Marseille, France. Josef Gotz, Usti nad Labem, Czech Republic. Egils Pelecis, Riga, Latvia. Charles Berecz, Dayton, Ohio. Terry Elmore, Everett, Washington.

**SAFCH WEB SITE:** See SAFO photos in color and chat with members at [www.bartoli.com/safo](http://www.bartoli.com/safo)

**COVER COMMENTS:** Since none of the articles in this issue were accompanied by photographs, I taken the opportunity to use our photo pages for a collection of early Brazilian Navy aircraft sent in by Sergio Luis Dos Santos of Brazil. The cover photo shows a Curtiss N-9H, while the back pages show the a Curtiss F model 1914, an Avro 504K, a Fairey Gordon, several Boeing 256, a Vought V-66B Corsair, and a North American NA-46.

**EDITORIAL COMMENTS:** In this issue you will find a renewal slip for 2002. This slip show any balance you may have left over from 2001. If money is needed to complete your subscription for 2002, please send it at your earliest convenience. This will make things easier for me, and it will ensure that you get the April issue as soon as it is published. Also, you should consider adding a couple of extra dollars to cover the big postal rate increase promised for June. If the money is not needed, the extra will be credited to your SAFCH account. (15 January 2001)

### -wants&disposals-wants&disposals-wants&disposals-wants&disposals-wants&disposals-wants&disposals-wants&disposals-

"Russian Commando? SAFCH member is researching the use and ultimate fate on the single Curtiss C-46 Commando transport (ex-USAAF 43-47271) supplied to the Soviet Union late in WW II (1944-1944) under the US-Soviet 'Lend Lease' agreements. Reliable sources indicate the C-46 was used by the Soviet Air Force's Test Flight Department of Nil VVS in the immediate post VE-Day time frame to fly Soviet test pilots and engineers to Berlin to fly former Luftwaffe aircraft back to Russia. One photo is known to exist of the aircraft in Soviet markings (red stars on what appears to be a natural aluminum finish) with the USAAF serial number still on the tail. (The photo appears in a very difficult to find book, War Planes to Alaska (Hancock House Publishing, date unknown) by Blake W. Smith."

Thomas Wm. McGarry (SAFCH # 950): Aviation News Service, 21 DaVinci Street, Lake Oswego, OR 97035-1309, USA. Phone/fax: 503.534.0899. e-mail: [twmflak@teleport.com](mailto:twmflak@teleport.com)

"WANTED: Serie Aeronaval #2 F9F Panther & Cougar; #4 SII-3D Sea King; #6 Alouette III; #9 F4U Corsair. Fuerza Aerea Argentina #1 Dagger & Finger; #4 Mirage III, and Aircraft of the Spanish Civil War, by Howson. Walter Noiseux (SAFCH #1574), PO Box 181, Syracuse, NY 13201-0181, USA. E-mail: [wfna@hotmail.com](mailto:wfna@hotmail.com)

Disposal: There are a number of kits in the SAFCH collection and in my personal collection that have been superseded by much better kits and are of

such poor quality that they are of no interest to modelers. However, they may be of interest to collectors. Therefore, I am offering the following kits free of charge except for postage. In 1/72 scale: VEB Su-7 (2), An-2, Tu-2 (3), & Be-6; Ruch PZL P-23A (5), PZL P-11c, & TS-11 Iskra; Novoeexport MiG-15 & MiG-17; Croix du Sur MiG-23; Airfix FW-109D & Gladiator (2); Guano Ik-2 (resin); and Aurora C-119. In 1/48 scale: Pioneer BAe Hawk T.Mk.1A Red Arrow (2) and Russian Yak-9 (5). If you're interested in any of these kits, send sufficient money to the SAFCH editorial office to cover the estimated postage. Any surplus will be credited to your SAFCH account. While you're at it look over the SAFCH Sales List to see what you can do to help me reclaim part of my house.

## AUSTRALIA

**AUSTRALIAN PLASTIC MODELLERS ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues sea mail A\$27; air mail A\$30).**  
**3-01 (32 pages)** "Odd Bods and Invaders: Douglas B-18 Bolo" one page with side-view drawing of "Goober Dust", a B-18 that was evacuated from the Philippines and served in Australia with the USAAC. "Phonix DI" one-half page side-view drawing of a/c in Austro-Hungarian markings.  
**4-01 (32 pages)** "A86: The Hawker P.1081 for Australia" 4 pages on kitbashing a Sea Hawk and Hunter to produce a Hawker P.1081 including history of RAAF interest in the aircraft and 1/72-scale drawings of the prototype and a hypothetical RAAF scheme and sketches of kitbashing steps. "The F86-D/L Sabre Dog" 4 pages with 12 side-view drawings [USAF (9), China, Thailand, & Yugoslavia]. "Commonwealth Kittyhawks and Mustangs in Italy 1943-45" 5 pages including 5 side-view drawings, official painting instructions, a discussion of the controversy over the color used, and 3 photos of models. "The Flower Class Corvette; Part 1 1940-43" 8 pages including side-view drawings of 12 ships. "Guadalcanal" 3-page story of a recent (1983) visit to the island including 7 photos of relics in various stages of decay.

## AUSTRIA

**OFII NACHRICHTEN (Oesterrichische Flugzug Historiker, Pfenninggldf. 18/2/14, A-1160 Wien. Write for free sample.)**  
**3/01 (36 pages)** "Phoenix C.I" 11 pages including 8 photos (2 Swedish) and 5 side-view drawings (1 Hungarian). "Udet U 12 Flamingo D.733" 5 pages including 3 photos and a 1/72-scale 3-view drawing. "Saab 105OE - 30 Jahre Flugbetrieb" 4 pages including one photo, 2-view drawing of commemorative a/c, and individual histories of Austrian 105s.

## BRAZIL

**REVISTA (IPMS Brazil, Rua Lucidio Lago, 457/206 Meier - Rio de Janeiro, CEP 20.780-020) E-mail: antoniolinhares@bol.com.br**  
**#99 2001 (16 pages)** "O Treinador Curtiss Jenny JN-4" 7 pages including 2 photos and a 3-view drawing of Jennies in the markings of the Brazilian Navy, and 3 side-view drawings of Jennies with the Military Police of Sao Paulo State. "Brazilian Skyhawk" one-page with a 3-view drawing of a single seater & side-view drawing of a two-seater Skyhawk in Brazilian navy markings.

## ENGLAND

**IPMS MAGAZINE (Ernie Lee, 51 Ball Road, Hillsborough, Sheffield, South Yorkshire S6 4LZ, 6 issues for £22.00 surface or £27.00 airmail. Scale Modelworld 2001 Special (24 pages)** "Only a Flea, but ... oho!" 5 pages on building a Me-163, its Bf 110 tug, and its fuel browser in 1/48 scale including 10 photos. "Back to Basics" 2 pages on basic modeling techniques. "The Widge" 3 pages on building a Hurricane I and Spitfire Vb flown by Ian 'The Widge' Gleed in 1/72 scale including 5 photos.

**PLASTIC KIT CONSTRUCTOR (PAMAG Publications Ltd., Riverdale, 89 Graham Road, Sheffield, S10 3GP; 4 issues £18.00. (North American subscription agent: Wise Owl Publications, 1926 S. Pacific Coast Highway, Suite 204, Redondo Beach, CA 90277. E-mail: wiseowl@sprintmail.com. Web Site: www.wiseowlmagazines.com).**

**#65 Autumn 2001 (36 pages)** "Big Bongo Blimp" one page on building a 1/72-scale WWII blimp including 6 photos. "Magna Models 1:48 scale Supermarine Attacker" 3 pages including 13 photos of the model. "Aeroclub's Spitfire F21 Conversion" 3 pages including 25 photos of the model. "Messerschmitt P1112" one page 1/72-scale 5-view drawing. Fiat RS.14" 2-page 1/72-scale 3-view drawing. "The Dornier Do-11D 'Bat' of the Bulgarian Air Force" 8 pages on converting the Airmodel Do-23 into a Do-11 including 3 photos of the a/c in Bulgarian markings, 9 photos of the model, 1/72-scale drawings, exploded view of the construction of the model, a page of sketches of details, and 3 side-view drawings (2 Luftwaffe & one Bulgarian). And, many other excellent reviews of kits old and new.

**SWEDISH AIRFORCE SIG (Ted Burnett, 19 Tintagel Close, Parkside Grange, Cramlington, Northumberland, England NE23 0NZ. Subscription £5.00 UK, £7.00 Europe, \$16.00 USA.**

**#38 Summer 2001 (23 pages)** "Anders Nowotny's Alps-Printed decals for 'Peter Gul' - The Arrow-Painted Saab 37 Jaktviggen" 2 pages of color drawings. "Some More of the Early Swedish Herky Birds" 5 pages including 4 pages of drawings. "De Havilland DH-82A Tiger Moth in Scandinavian Service" 5 pages including 14 side-view drawings [Sweden (7), Norway (6), & Finland (1)]  
**#39 Winter 2001 (28 pages)** "Danish Dynamite" one page with color drawing of Saab Draken painted in a special Danish flag color scheme. "Top Gun" Friedrichshafen FF.49C" Review of kit including a 2-page multi-view scale drawing. "The MFI 15B as Tested by Forsocentralen FC-73" 3 pages including review of the Broplan kit, modification necessary to make the a/c as tested in Sweden, and a 4-view scale drawing. "The De Havilland Vampire J28B & C" 5 pages of side-, top-, and bottom-view drawings showing color schemes and stenciling. "Seabee Memories" 4 pages including story of flying the Seabee in Sweden, a review of the Mach 2 kit, and a scale 3-view drawing of 'SE-AXA'.

**IPMS-MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs). Now with captions in English.**

**#138 2/2000 (24 pages)** Entire issue devoted to modeling British aircraft carriers including color photos of the models, 1/700-scale drawings of the Eagle (1932) & Illustrious (1941), and 1/2100-scale drawings of the Arc Royal (1939), Glorious (1937), Furious (1932), Indefatigable (1945), & Hermes (1933).

**#139 3/2001 (24 pages)** "Suhoi Su-2" 9 pages including 9 photos and 2 pages of side-view drawings showing different versions and details of armament. "Prince Eugen" 6 pages including 7 color photos of the model and 2 pages of drawings showing the ship at various stages in its career.

**SUOMEN ILMAILUHISTORIALLINEN LEHTI (InScale 72, Makelankatu 5B10, 00550 Helsinki; Europe \$30, elsewhere \$35; payment by International Postal Order or in cash; no cheques accepted because of high redemption rates). Each issue includes a 2-page English summary.**

**3/2001 (24 pages)** "Saaski History" 7 pages including 17 photos and a 1/72-scale 4-view drawing. "Compressed Impregnated Wood-Bladed Propellers VLS 8000-8003" 4 pages including one photo (Blenheim) and a 3-view drawing (Myrsky

II). "Arado 95see - Almost the 'New Marine Aircraft' of 1938" 4 pages including 2 photos of a/c offered to Finland. "Polish visits to 1920s and 30s" 2 pages including 4 photos (Breguet 19, RWD-8, & RWD-13). "Heinkel 112 visiting Malmi in May 1938" one pages including one photo. "Nil Katajainen" Mannerheim Cross #170" 3 pages including 8 photos (Brewster 239 & Bf 109G) and 'victory' list.

## FRANCE

**AIR ZONE, Le Nouveau Mensuel de l'Air! (Air Zone Magazine, 53 rue Boissiere, 75116 Paris. E-mail: headland@airzone.net) A one-year subscription for 9 regular issues and two special issues is 405FF. Payment preferably by check drawn in FRF on a French bank, by draft or postal giro.) Photo captions in English.**

**#33 Mai-Juin 2001 (68 pages)** Photo: New Zealand Skyhawk. "L'exercice ODAX 2001" 4 pages including 6 photos (Greek Mirage 2000, Moroccan Mirage 1FEE & C-130H, Polish MiG-29, and Italian F-104ASA). "Tiger Meet 2001" 10 pages including 12 photos (French Mirage 2000, Belgian, Turkish, & Dutch F-16, Portuguese Alpha Jet, German Tornador, & Czech Mi-24). "Tout le monde au Bourget" 14 pages including 38 photos (Polish Bryza 1R, Georgian Su-25 Scorpion, & Uzbekistan Mi-24). "La Force Aerienne Belge a reçu son premier Embraer ERJ 135" 4 pages including 9 photos.

**AVIONS: Toute l'Aeronautique et son Histoire (Lela Presse, 29 rue Paul Bert, 62230 Outreau, France. 420F for 12 issues).**

**#103 Octobre 2001 (68 pages)** "Le Dewoitine D.371 dans l'Armee de l'Air" 9 pages including 10 photos, color cover painting, 4 color side-view drawings, and a 2-page 1/72-scale 6-view drawing. "Pierre Clostermann nous écrit" 5 pages including 7 photos and 'victory' list. "Donnerkeil" 12 février 1942" 9 pages including 25 photos and 3 color side-view drawings (Do 217E-2, Spitfire VB, & Bf 109F-2). "Les Mosquito du 219 Squadron en France" 7 pages including 18 photos. "Les Dornier Do 22Kg grecs" 8 pages including 11 photos and 2 color side-view drawings. "Le Whitley et la chasse aux sous-marins" 6 pages including 10 photos and 5 color side-view drawings. "Georg Strasser et la Jasta 17" 8 pages including 14 photos and 4 color side-view drawings (Albatros D.V).

**#104 Novembre 2001 (68 pages)** "Retros du Mois" Photos: Marcel Bloch 100 and Romanian Porterfield. "L'escadrille Spa 79 durant la Grande Guerre" 7 pages including 16 photos and 4 color side-view drawings (Nieuport XVI, Sopwith (Hanriot) 1 B2, Spad VII, & Morane-Saulnier P). "Photoscope: les bolides de course Hanriot 130/131" 3 pages with 8 photos and one color side-view drawing. "Le Dewoitine D.371 dans l'Armee de l'Air" 5 pages including 11 photos and a 2-page cutaway drawing. "Les avions francais en URSS, 1921-1941" 10 pages including 17 photos and 4 color side-view drawings (Tellier, Hanriot HD.14, Farman F.62 Goliath, & Caudron C 690). "Le Whitley et la chasse aux sous-marins" 6 pages including 12 photos and a color painting. "Georg Strasser et la Jasta 17" 7 pages including 11 photos. "Maquette: Les P-40 britanniques" 5 pages including 6 photos of the model and 7 photos of details of preserved a/c.

**#105 Decembre 2001 (68 pages)** "Retros du Mois" one page with 2 photos (Borel B-O and Estonian FF 41A). "Le A.W. Whitley et les operations spe-

ciales" 7 pages including 14 photos and 5 color side-view drawings. "Huit mois au 1./JG 28" 7 pages including 17 photos and 4 color side-view drawings (one Romanian Bf 109E). "L'escadrille Spa 79 durant la Grande Guerre" 6 pages including 16 photos and 4 color side-view drawings (Spad VII (2), Sopwith 1 B1, & Spad IX). "Les avions polonais de l'Aviation Nationaliste" 7 pages including 15 photos and 5 color side-view drawings (PWS 10 & RWD 13). "Les multiplaces de combat Breguet 460/462 Vultur" 5 pages including 15 photos. "Les avions français en URSS 1921-1941" 6 pages including 17 photos (Farman Goliath, Hanriot HD 14, DI-4, ZIG-1, Potez 25, & Tellier) and 3 small 3-view drawings (DI-4, TOM-1, & MR-3). "Le Schreck FBA 17 HE 2 de Hit Kit au 1/72ème" 4 pages including 4 photos of the model and 9 photos of a/c in French service.

## ITALY

AERO FAN Storia di Italiane. Italian-English text. (Giorgio Apostolo Editore, Via Ampere 49, 20131 • Milano, Italy.) 4 issues L 80,000.  
#78 Lug.-Sett. 2001 (68 pages) "Tarcisio Fagnani: From assignment to 'Cucaracha' Squadron to command of 54° Stormo" 16 pages including 24 photos (CR.20, CR.32, Ca.101, & C.200) "Isotta Fraschini Asso 750" 13 pages including 16 photos and drawings of the engine and 6 photos of aircraft [Macchi C.77, Ca.111, Ca.140, SM S.62 (one in Soviet markings)] "Savoia Marchetti S.78: A long-range reconnaissance flyingboat" 15 pages including 25 photos, two 3-view drawings, and a drawing of the interior arrangements. "Mid-air crash over Brescia: A case of censorship" 6 pages including 5 photos (Fiat BR.1, Caproni Ca.73, Ansaldo AC.3, & Fiat CR.1). "L'Album di AeroFan" 2 pages with 5 photos (SM.92, SM.93, Saiman 202, S.82, S.81). "Le Marche Civili Italiane" 5-page table of civil registrations with 5 photos (Moravia Z-50, SAI 2S, Pasotti F9, SPAD 42, & Cessna Bobcat).

JP-4 Mensile di Aeronautica (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).  
Giugno 2001 (100 pages) Color photos: Danish F-16 & Greek A-7. "Turkish Stars" 4 pages on aerobatic F-5s including 7 photos. "Viaggio attorno al cavallino" 5 pages including 13 photos of Italian a/c carrying the 'cavallino rampante nero' squadron insignia.  
Settembre 2001 (100 pages) "Beja, Home of the Portuguese Alpha Jets" 6 pages including 14 photos. "Giornata azzurra 2001" 5 pages including 13 photos (Swiss F-5F, Dutch F-16, Austrian Draken, and Turkish F-5F & C-130). "The Fighter School" 9 pages including 14 photos (Breda Ba.25 and Fiat BR.3 & CR.32).  
Ottobre 2001 (100 pages) "Le scuole di Cigli" 6 pages including 17 photos (Turkish T-38, SF.260, T-37, Cougar, UH-1H, & CN-235). "La Scuola

Aéro Journal: This is a relatively new French language magazine edited by Chris Ehrengardt who is well known to IPMS members around the world. Many of the past issues have included a large amount of information about the Luftwaffe, however the most recent issue, #22 Decembre 2001/Janvier 2002 is a gem for Small Air Force fans. Articles include; "Les mulets de David" S-199 in Israeli operations. 22 photos, 4 profiles and one 4-view illustration. "Les D.501/510 à l'export". 13 photos and 5 profiles including Chinese, Turkish, Venezuelan, and Lithuanian usage. "Viêt Nam (les jets)" 10 profiles including North and South Viet-

piloti di Lacarno" 6 pages including 11 photos (Swiss PC-7, P-3, Alouette III, & Turbo Porter).  
Novembre 2001 (100 pages) Color photo (Canadian EH.101). "Cedi dodici ... prendi due" 4 pages including 11 photos of C-130H for Brazil. "Tiad 2001" one page with 4 photos (Turkish F-4 & F-5, Israeli F-16, & Ukrainian MiG-29).

## NETHERLANDS

MODELBOUW IN PLASTIC (IPMS-Nederland, PO Box 40082, NL-8016 DB Zwolle). Now with English captions and summary.  
2/2001 (32 pages) "Ju 290 A-5 'Seedler'" 3 pages on building the Airmodel kit including 3 photos of the model. "Red Noses Demoteam van 314 Squadron 1956/1957" 4 pages including 3 photos and a 2-view drawing of Dutch F-84F. "De Dornier Do 24 van de MLD" 3 pages including 6 photos of the model. "De Short Stirling RAF" 4 pages including 5 photos of the model. "Fokker D.XXI" 5 pages including 6 photos of the model carrying Dutch orange triangles. "De OS2U-3 Kingfisher" 2 pages including 2 photos and 2 side-view drawings of a/c in Dutch orange-triangle markings.  
3/2001 (32 pages) "Een zeldzame hoogvlieger met dieselmotoren" 3 page on converting the Ju 86 into a Ju 86R including 6 photos of the model. "Bare Metal" 4 pages including 5 photos of models. "Bulkan Tu-154M" 9 pages on building the Welsh Models kit including 12 photos of the real thing and 6 photos of the model. "De jachtvliegtuigen bij de RNMFS te Jackson, Mississippi" 3 pages including one photo and a side-view drawing of a P-40 carrying Dutch flag national insignia. "Het vervaardigen van plasticard" 2 pages on heat-forming canopies.  
4/2001 (32 pages) "De Curtiss XSB2C-1" 3 pages including 4 photos of the model and sketches of differences from the production version. "Boeing 747-306 EUDF KLM" 8 pages on building the 1/144-scale kit including 7 photos of the real thing and 10 photos of the model. "Fairey Firefly" 7 pages including 8 photos of Dutch Fireflies and a page of scale drawings showing corrections to be made to the 1/72-scale Airfix kit.

## SPAIN

REVISTA ESPANOLA DE HISTORIA MILITAR (Carlos Fresno Crespo, Alcaniz Fresno's S.A., C/Cromo 18-20, Poligono Industrial San Cristobal, 47012 Valladolid) 800 Pts.  
#15 Septiembre 2001 (80 pages) "Werner Molders" 18 pages including 20 photos and 9 color side-view drawings (Ar 66, Ar 68E, Bf 109D, Blenheim I, D-520, Spitfire I, Bf 109E, I-16, & He 111H). "La ultima presa del 'Kormoran'" 4 pages including 3 photos and color side-view drawing. "Los Heinkel He 111H-16 de fabricacion espanola (1ª parte)" 10 pages including 25 photos and 5 color side-view drawings. "75 aniversario del vuelo de la Escuadril-

nam. "Les Couleurs de L'éclair". A summary of the different color schemes used on the Italian Macchi 202. 16 photos, 4 in color, and 11 profiles. "Les as de l'aviation Adrian Warburton". Profiles of a Martin 167F and a Hawker Hurricane Mk I in PR scheme. "Hurricane sur Aden" 3 photos and profiles of a Hurricane Mk.I and a Harvard Mk.II used in Aden. "Incident en Transylvanie" 4 photos and 6 profiles of Rumanian and Hungarian aircraft. "Le Sunderland de la dernie chance". 4 photos and 2 profiles showing a Supermarine Walrus Mk. I and Sunderland Mk.I in RAAF usage. "Le CG III/5" an ongoing series of the French fighter units during

la Elcano" 7 pages including 7 photos, one color side-view drawing (Breguet XIX), and map of flight from Madrid to Manila. "Historias a la carta" 3 pages including 3 photos and 2 color side-view drawings (Spanish Bu-133 & Ro.41). "Que bien vuela usted!" 2 pages including one photo and one color side-view drawing (Spanish He 112). "El 'gorrito isabellino' el uniforme de Aviacion" 3 pages including one photo and 6 color drawings. Poster inserts: Carro de Asalto 'Landesa'; Camion Protegido Mod. 1921; Camion Blindado 'Tiznao' (1936); & Obus Scheider Ac. de 15,5 cm. T.r. Mod. 1917.

## USA

CHINE LINES (IPMS Seaplane SIG, c/o Bill Devins, 358 Arbor Rd., Lancaster, PA 17601-3204. \$10.00 USA or #13.00 overseas for 4 issues).  
#20 Summer 2001 (20 pages) "Resin Roots, Rise, and Range: A brief look at Czech resin and related modeling" 3 pages including 4 side-view drawings. "Dornier Do 22 from Aviation USK in 1/72 Scale" 2 pages including 3 side-view drawings (Yugoslav, Greek, & Finnish). "Grumman Goose - CMR 1/72 Resin Kit" 2 pages. "Grumman G-44 Widgeon - Pavla 1/72" 2 pages. Some Singularly Small-Scale Seaplane Kits" one page. "Resin Seaplane Kit List" 8 pages. "Hirosho Navy Type 89 Flying Boat H2H1 - Choroszy 1/72 Resin" 2 pages. "Fairchild 91 - Sword & Azur 1/72 Kits" 2 pages.

WWI AERO (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$30.00 USA or \$30 overseas).  
#174 Nov 2001 (146 pages) "Airship Development in Japan" 9 pages including 13 photos. "A Forgotten Voisin" 5 pages including one photo and scale drawings. "Training of Czechoslovak Pilots on Nieuports at Pau in 1919" 4 pages including 4 photos. "The History of the NASM Nieuport 28" 8 pages including 12 photos. "Test Flying the RAF SE-5A" 8 pages including 7 photos. "Drawings" Curtiss A-1 (2 pages) & Caudron G.VI (3 pages).

SKYWAYS (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$30.00 USA or \$35.00 overseas).  
#60 Oct. 2001 (84 pages) "Anacostia Flight Tests: Curtiss XF9C-1 & F9C-2 Sparrowhawk Fighters" 17 pages including 25 photos, color cover painting, and a 2-page 5-view drawing. "Cockpits: Curtiss XF9C-1 and F9C-2 Sparrowhawk" 5 pages with 6 photos. "Oshkosh Air-Venture 2001" 8 pages including 19 photos. "A New Ryan M-1 Mailplane" 9 pages including 17 photos and a 3-view scale drawing. "The Walter Carr Racer" 8 pages including 7 photos, a 2-page 6-view scale drawing, and 2 drawings of modified a/c. "Racing Notebook" 12 pages including 28 photos of a/c from Laird Solution to Rasmussen 'Skippy', and 2 pages of scale drawings of the Laird Super Solution.

WW II. 2 photos and two profiles including a MS 406 and a SPAD 510. "Fatidique 900" with a profile of a F-51D in South African markings. And finally on the back cover, a 3-view illustration of a LeO 451 in Vichy markings with experiment mine sweeping equipment.

A great issue. This magazine can be obtained directly from the publisher at: Aero Journal, 50, bid Paul Valéry, 32500 Fleurance, France. A year's subscription, 6 issues, costs 41.20 euros. Clarence Wentzel (SAFCH #524), 5161 Willow-bend Trail, Kalamazoo, MI 49009, USA.



# Polikarpov I-16s in China

D. Y. Louie, P.E.

[Translator's note: Avions has recently published a great book on the I-16 titled, *Le Polikarpov I-16*. With permission from the publisher, monsieur Michel Ledet, I'm providing the English version of Chapter XV for the enjoyment of SAFO readers.]

Pursuant to the signing of a five-year non-aggression treaty between the Chinese Government and the Soviet Union in August 1937, the Soviet formed the Soviet Volunteer Group (SVG) and began to supply I-16-6s to the Chinese Air Force (CAF) for training at Lanzhou. The designated recipient was the 4th Air Group (AG).

The CAF I-16 made its debut during the defense of Nanjing against the Imperial Japanese Naval Forces (IJN) in December 1937. Several I-16s fell into the hands of the invaders during the fall of the Chinese capital on December 13 of the same year. The IJN promptly shipped the abandoned I-16s to Japan for evaluations by engineers of the Tachikawa Aircraft Co. Ltd. The Soviet eventually replenished the lost I-16-6s with I-16-10s.

From September 1937 to August 1940 before the Mitsubishi A6M Zeros became operational in China, I-16s fought in Lanzhou, Wuhan, Nanchang, Xuzhou, Chengdu, and Chongqing. In all about 200 I-16s were in service with the CAF.

In late October 1937, Capt. Gao Zhihong, 4th AG Group Leader, left Nanjing for Lanzhou to accept the transferred SB-2s, TB-3s, I-15s, and I-16s. By mid November, Capt. Gao and fifteen CAF pilots had completed flight training and were ready to ferry I-16s to Nanjing to beef up air defense against the Japanese aggressors. Bad weather delayed their departure until November 20. En route to Nanjing with a fuel stop at Zhoujakou, blizzard and squall relentlessly haunted Capt. Gao's entourage. Subsequently, poor visibility and fuel exhaustion caused six I-16s to crash land in sporadic open fields along the flight path. Only ten I-16s safely detoured to Ankang. Frustrated, Capt. Gao regrouped his men and flew back to Lanzhou to try again the following morning. The second attempt to ferry the I-16s to Nanjing on November 21 was not a smooth one either. Capt.

Gao, in an effort to circumvent extreme weather conditions, suggested a flight course change to the CAF Headquarter at Nanjing. Capt. Gao proposed to hop over the Liupan mountain to reach Xian for refueling. Then they would bypass Leyang to reach Zhoujakou for a second refuel. This would allow them to arrive at Nanjing in the afternoon on the same day of departure. Unfortunately, Capt. Gao's proposal was deemed unacceptable. His group was ordered to make an extra fuel stop at Leyang and an overnight stay at Zhoujakou. Capt. Gao considered the stopover at Leyang unnecessary because it would cause precious time to further tick away. He obliged reluctantly nonetheless.

A previous disastrous flight notwithstanding, Capt. Gao led his men to renew a second attempt for departure on November 21. Braving through persistent heavy weather and duly making the extra stopover at Leyang, they arrived at Zhoujakou at dusk. While the I-16s were promptly refueled and readied for the final leg of the journey to Nanking at dawn of the following day, intelligence reports were received indicating that IJN bombers (G3M Chukos) were heading toward Zhoujakou. Capt. Gao and fellow pilots immediately scrambled for action. However, as Capt. Gao and his men were warming up the I-16s, chokos were already flying overhead. With Capt. Gao sitting in the cockpit and mechanics, Feng Guanqing attempting to start the engine for the third time, his ill-fated I-16 suffered a direct bomb hit. Both Capt. Gao and Feng were killed instantly. The only I-16 pilot managed to take off amidst the bombing was Capt. Mao Yingzuo. Capt. Mao shot down a Chuko but he was also wounded on the shoulder which required a hospital stay at Hankou. This air battle above Zhoujakou marked the debut of the I-16s in CAF service.

The situation of the CAF was to become alarming by November 1937 as attrition took its toll. The CAF Order of Battle was reduced as follow:

**2nd Air Group:** Was originally responsible for the defense of the Shanghai area. It also flew sorties against IJN shipping congregated along the coastal areas of the East Sea

and the Guangdong Province. Its strength was reduced to 1/3 by mid September. On September 21, its Group Leader Zhang Tingmeng was ordered to lead personnel of the 9th AG and 11th AG to Lanzhou for flight training of new Soviet planes. By December 3rd, only four Northrop Gammas, s/n 901, 1409, II-2, and II-4 survived. The Gammas were turned over to the CAF Command at Wuhan with all remaining personnel transferred to Lanzhou for Soviet plane flight training.

**3rd Air Group:** At the onset of the Sino-Japanese War, it had transferred personnel and planes of its 7th Squadron to supplant other AGs. Remaining squadrons of the AG, namely the 8th Squadron and the 17th Squadron, were assigned to defend Nanjing. When on August 15, five CR-32s of the 8th Squadron participated in the interception of sixteen IJN bombers attacking the Chinese Capital. On November 7, the 7th Squadron and the 8th Squadron were replenished by aircraft from the 1st Squadron and 2nd Squadron of the Guangxi Provincial Air Force. It also exchanged its 17th Squadron for the 25th Squadron of the 5th AG to be based at Hankou. The 7th Squadron and the 8th Squadron were to station at Xiangyang by the end of December.

**4th Air Group:** Was responsible for defending the Shanghai-Hangzhou-Nanjing area at the beginning of the Sino-Japanese War. Due to attrition, by late August the 4th AG and 5th AG were merged into a single AG with their respective AG leaders sharing command responsibilities. On September 21, the 4th AG was redeployed to Lanzhou for Soviet plane flight training. Capt. Gao Zhihong led nine new I-16s to Nanjing via Zhoujakou in mid November. He was killed during the Japanese bombing of Zhoujakou on November 21. On December 15, the 4th AG ferried thirteen I-16s from Lanzhou to Xiangyang for training.

**5th Air Group:** Was responsible for the defense of Shanghai and Nanjing at the outbreak of the Sino-Japanese War. The AG was dispatched to station at Nanjing on August 21. Upon merging with the 4th AG in late August, the Air Group was redeployed to Shanghai for

CAP. On October 26, 24th Squadron Leader, Liu Cuigang, led the remaining 5th AG airworthy planes to Shanxi to fly ground support missions there. And the 5th AG was thus left without any aircraft at its disposal. Hence, pilots of the 5th AG were dispatched to Hankou in November. There they flew air defense sorties with seven eclectic aircraft of various types tinkered into airworthy status with spare parts salvaged from wrecks. By the end of December, these "improvised" aircraft were turned over to the 25th Squadron of the 3rd AG. Group Leader John Wong subsequently led twelve pilots headed for Lanzhou for Soviet plane flight training in January 1938.

**6th Air Group:** Was responsible for bombing Japanese targets in Shanghai. After the fall of Shanghai, the group was dispatched to Hangzhou where it was reorganized as a night attack unit. On December 7, the group shifted its home station to Nanchang where on December, merged with the 1st AG. In January the following year, its home base was again moved to Changsha.

### **CAF activities in the Guangdong area**

**18th Squadron:** A reconnaissance squadron stationed at Guangzhou equipped with a Vought V-92 Corsair and three Beechcraft "Traveler" utility aircraft. All were destroyed during the Japanese bombing of the city on September 21.

**28th Squadron:** Deputy Squadron Leader Arthur Chin led four Hawk IIIs stationed at Shaoguan where they fought with Japanese aircraft on three occasions from mid September to early October. They achieved an IJN floatplane kill. However, pilot Huang Yuanbo was KIA, and pilots Chen Chiwei and Zhou Lingxu were wounded in these engagements. Finally, Arthur Chin led the group to relocate to Guangzhou on December 1 to change over to the new Gloster Gladiator fighters. On January 15 of the following year, the entire squadron with the Gladiators was ordered to move to Hangyang.

**29th Squadron:** From August 31 to October 9, the squadron was in air combat with the Japanese thirteen times. six Japanese planes were claimed at a loss of five to the squadron. The squadron lost six more attributed to accidents and other causes. The remaining aircraft were then turned over to other squadrons. In December, the squadron was attached to the 5th AG to be reequipped with ten Gladiators.

**8th Air Group:** The group was initially stationed at Nanchang before it was moved to Hankow. Basically a bombing and air transport group. Its 10th Squadron was equipped with five SM-71s and a Ford Trimotor. In late July, three Ca-111s joined the squadron. By the end of December, the 10th Squadron had completed 420 sorties, logged 988 hours and 25 minutes of flight time covering a flight distance of 160,590 km. Other squadrons of the group included the 19th Squadron equipped with He111s and 30th Squadron equipped with Martin 139s.

**9th Air Group:** Assigned to defend the Beijing-Tientsin area and stationed at Xuchang, the group was disbanded in early September. Its 26th Squadron and 27th Squadron were combined to a single squadron assigned to combat Imperial Japanese Army Air Force (IJA) in North China. In January 1938, this squadron was dispatched to Xiangyang for I-16 flight training.

**13th Air Group:** Initially stationed at the Daying airfield in Shanxi Province, the group was relocated to Nanchang in

November and then to Yichang in December. The group was equipped with SM-71s, Spartans, and Ca-101s.

**20th Air Group:** A gunnery training group originally stationed at Xiaogan. It was relocated to Nanchang on September 1, 1937. The group was equipped with fifteen trainers of various types. The group was later moved to Yibin where it and was subsequently deactivated in April the following year.

The overwhelming Imperial Japanese war machines, being contemptuous of the ill-equipped Chinese Forces, expected a swift victory over China within three months into the Sino-Japanese War. To achieve this objective, the invading Japanese forces imposed on Chinese civilians a Holocaust notoriously known as the Rape of Nanjing at the fall of the Chinese capital in December 1937. However, instead of capitulating to the aggressors, the Chinese moved the capital to the interior territory at Chongqing. When the Japanese government realized the expectation to quickly bring the Chinese to kowtow to inhumanity had fizzled, an intensified bombing program of the Chinese interior was implemented intended to break the defenders' will to fight and to bring forth submission. To counter the ever increasing air raids, the CAF, having unable to gain any material support from the United States, turned to the Soviets for a fighter to thwart off IJN bombers. The only fighter available and suitable to meet that role was the I-16.

The first CAF squadron to operate the I-16s was the 26th Squadron which was ordered to report directly to the CAF Command in January 1938. And the squadron was sent to Xiangyang for I-16 flight training. Soon the squadron was deployed at Lanzhou flying CAP with I-16s. Upon the arrival of nine new I-16s in late June, the 26th Squadron shifted its operational base to Hankou a month later to assist the 3rd AG and 4th AG there to defend the city.

### **CAF I-16 Operational Record**

**January 22, 1938:** Two I-16s of the 24th Squadron tangled with an Imperial Japanese Army (IJA) Ki-19 above Lanzhou. No kill claims were recorded.

**January 30, 1938:** 4th AG 21st Squadron leader Wang Yuenbo led six I-16s left Xian for Xiangyang at 1520. Ten additional I-16s eventually joined the squadron.

**February 2, 1938:** At 0930, eight IJN Type 96 medium land-based bombers (G3M - Chuko) without fighter escorts were reported flying past the Deng County heading south toward Xiangyang. Nine I-16s of the 21st Squadron scrambled to join four I-15s from the 23rd Squadron for an intercept. The Chukos abruptly changed course to avoid confrontation.

**February 5, 1938:** 4th AG 21st Squadron leader Liu Jihang led seven I-16s and four I-15s touched down at Xiangyang from Lanzhou at 1720.

**February 6, 1938:** nine Chukos bombers were spotted above Xinyang heading for Xiangyang. seven I-16s and five I-15s scrambled to meet the challenge. Again, the Chukos changed course to avoid combat.

**February 9, 1938:** At 0700, nine Chukos were spotted heading for Nanchang. thirteen I-16s scrambled for an intercept. The Chukos changed course before the I-16s arrived. At 1005, nine Chukos were reported flying past the Hubei-

Anhui provincial border. The 4th AG was undergoing flight training nearby at Xiangyang. Upon receipt of the flypast report, the 4th AG scrambled three flights of I-16s and I-15s for an intercept. Flight 1 consisted of five I-16s led by squadron leader Li Guidan. Flight 2 consisted of seven I-15s led by 22nd Squadron leader Liu Jihan. Flight 3 consisted of four I-15s led by 23rd Squadron deputy leader Liu Zhongwu. Flying V formations at 3000 m, the three flights intercepted the nine Chukos flying at 2000 m at 1118. Li led the three flights to dive for an attack. The Chukos managed to escape with only one of them trailing smoke. Post combat analysis attributed the disappointing success of the combat encounter to insufficient flight experience with new Soviet aircraft.

**February 18, 1938:** At 1240, twelve Chukos escorted by 26 A5Ms attacked Wuhan (the Tri-City consisting of Wuchang, Hankou, and Hanyang). The 4th AG stationed there scrambled ten I-16s and nineteen I-15s to thwart off the attackers. The date would become the day the I-16s drew the first blood. 21st Squadron Leader Dong Mingde led ten I-16s took off from Hankou at 1310. Flying at 3500 m in a V formation, the I-16s tangled with the A5Ms near the northwestern sky above the airfield. four A5Ms fell under the guns of the I-16s in the encounter as follow: one kill by Liu Zhesheng; one kill shared by Dong Mingde, Yang Gufang, Liu Zhesheng, and 23rd Squadron deputy leader Liu Zhongwu; one kill shared by Li Wenchang, Yang Gufang, Wang Texien, and Han Seng; one kill shared by Wang Yuenbo, Gong Yeti, and Wang Texien. Japanese records indicated the four IJN pilots KIA were: 12th AG's Lt Takashi Taneko, PO1c Shigo Miyamoto, and Sea1c Hiroji Hayakawa; and 13rd AG's PO1c Inao Hamada. The I-16s returned to base without a single loss. While the I-16s were basking in glory, their partners did not fare equally well. eleven I-15s led by 4th AG leader Li Guidan and eight I-15s led by 23rd Squadron leader Lu Jichun fought with the Chukos and A5Ms. Although seven A5Ms and a Chuko were fell in the melee, the CAF also suffered the loss of seven I-15s with five pilots KIA (Li Guidan, Lu Jichun, Ba Qingzeng, Wang Yi, and Li Pengxiang), one pilot wounded (Wang Yukun), and one pilot (Liu Jihan) bailed out. This was indeed a Pyrrhic victory for the CAF.

**February 25, 1938:** At 1100, 35 Chukos escorted by eighteen A5Ms attacked Nanchang. eleven I-16s and nineteen I-15s led by SVG's A. S. Blagoveschenskij rose at 1110 to meet with the intruders. At 1135, the I-16s and I-15s fought with the Chukos and A5Ms approaching the city in four V formations at 3300 m. I-16s, being the heavier hitters, dove to attack the Chukos first. They were rewarded by a barrier of defending A5Ms. Moments later, the I-15s joined in the fight. In the ensuing 10-minute air combat, two A5Ms piloted by 13th AG's Lt Shigeo Takuma and PO1c Hisao Ochi were shot down. PO1 Kiyonobu Suzuki was also wounded in combat. CAF losses included one I-15 shot down, one I-15 had its left wing damaged, and four I-15s returned to base riddled with bullet holes.

**April 5, 1938:** At 1300, nine unescorted Chukos were sighted heading for Yichang. six I-16s and ten I-15s of the 4th AG took off to meet the intruders. The Chukos changed course to avoid combat.

**April 7, 1938:** At 1100, 21st Squadron deputy leader Wang Yuenbo led six I-16s to intercept six Chukos heading for Yichang. The I-16s dispersed the Chuko formation about

20 miles north of Yichang near the Huangan County. Two Chukos were trailing black smoke as they left and the I-16s returned to base without loss.

**April 15, 1938:** At 1845, six Chukos were sighted heading for Nanchang. The Chukos managed to get through the defense line of three SVG I-15s on CAP to deliver more than ten bombs at the airfield. A parked I-16 was destroyed in the attack.

**April 29, 1938:** To celebrate the emperor's birthday, the IJN amassed 39 Chukos and A5Ms to attack Wuhan. Unbeknown to the Japanese planners, the CAF were anticipating such an attack and was ready to meet with the Chukos which entered the defense zone at 1430. CAF plans were to have the I-16s flying CAP over Wuhan with the responsibility to shoot down the Chukos, and to have the I-15s forming an outer defense ring to engage the escorting A5Ms. To wean the A5Ms away from the Chukos would facilitate the I-16s to achieve their objective. At 0800, the following CAF fighters were readied for combat: SVG at Hankou (sixteen I-16s and 23 I-15s); 3rd AG and 17th Squadron at Xiaogan (ten I-15s); 4th AG at Hankou (seven I-16s and nine I-15s); 24th Squadron at Hankou (two I-15s).

As planned, the 23 I-16s (sixteen SVG I-16s and seven 4th AG I-16s) were directed to fly CAP above Wuhan while the 44 I-15s, in two groups, formed a defense ring when the Chukos and A5Ms arrived. Details of the interception were as follow.

**3rd AG & 17th Squadron:** Four 3rd AG I-15s joined forces with six 17th Squadron I-15s led by squadron leader Sen Zeliu to fly behind the 4th AG at 6500 m. Sen and his wingman Chiu Guo sighted the Chuko formation approaching Wuchang from the northeast. They sneaked behind the enemy formation to effect a surprise attack from below. Their efforts were rewarded with a Chuko plunging earthward with its right engine in flame. Meanwhile, 17th Squadron's deputy leader Zhu Jafen scored another Chuko in the southeastern sky of Wuchang and pilot Mo Daxen also turned a Chuko into a fireball near Mount Xung.

**4th AG & 24th Squadron:** The entire complement of the 4th AG sprang into action in this engagement. Group commander Mao Yingzuo led nine I-15s engaged more than twenty A5Ms in the southern sky of Wuchang. Flight leader Liu Zhongwu scored two kills while 22nd Squadron flight leader Yang Xinxen knocked another A5M off the blue yonder. Meanwhile, 24th Squadron leader Li Keyuan joined the seven I-16s led by 4th AG deputy leader Dong Mingde to concentrate their firepower against the Chukos. Their combined efforts yielded two Chukos above Wuchang.

**SVG:** SVG I-16s and I-15s complemented the 4th AG and 3rd AG to block the path of the intruders above Wuchang. six Chukos and seven A5Ms yielded to the guns of the SVG pilots. SVG loss was an I-15 accidentally hit by ground fire amidst the heat of the battle. The pilot bailed out and was rescued. However, five SVG I-15 pilots were lost in this engagement.

In the 1938 Japanese emperor's birthday air battle at Wuhan, the IJN lost ten Chukos and eleven A5Ms. CAF lost twelve aircraft (ten were I-15s of which three were repairable and two Chance Vought V-92Cs were strafed at on takeoff) and ten pilots KIA (CAF I-15 pilot Chen Huaimin, four CAF V-92C flight school cadets, and five SVG I-15 pilots).



Japanese records identified two significant IJN pilots among those KIA in the engagement namely PO2c Kenichi Takahashi and PO3c Kenji Fujiwara.

**May 10, 1938:** six 4th AG I-16s led by deputy group leader Dong Mingde were dispatched to Jumadan to assist ground troops there. They were to strafe Japanese targets in the Southern Shandong Peninsula. twelve I-16s and 25 I-15s of the SVG were also deployed to the Tienhe airfield and Baiyun airfield at Guangzhou in Southern China. When Dong's six I-16s arrived at Zhoujakou at 1650 for a fuel stop, one of the I-16s was found to have a leaky fuel tank which required a repair stop at Xuzhou. So Dong led the remaining five I-16s to take off the following morning at 0525. They flew CAP above Xuzhou before they continued their journey to Jumadan. After airborne for almost four hours, the I-16s were running short of fuel. Therefore, Dong led the five I-16s to detour to Tezhou for a drink. Upon touch down, twelve A5Ms suddenly appeared over head to strafe the airfield. All five I-16s were destroyed on ground. Fortunately, Dong and his men were unhurt. They eventually returned to Hankou by cars.

**May 13, 1938:** The I-16s got their revenge two days after the fiasco at Tezhou three days earlier. 4th AG 21st Squadron flight leader Li Wenxiang led three I-16s and four I-15s led by 22nd Squadron leader Yang Xenxien took off from Chengdu at 0445 to strafe Japanese troops attempting to sneak across the Huang He (Yellow River) under the pall of darkness. After several passes inflicting more than 300 casualties, the I-16s and I-15s returned to base triumphantly at 0645.

**May 31, 1938:** At 1145, 100 Chukos escorted by 39 A5Ms were reported heading for Hankou. The 49 CAF fighters stationed at Hankou scrambled to intercept the invaders at 1150. The defenders included four I-15s from the 3rd AG, eight I-15s and six I-16s from the 4th AG, and twenty-one I-15s and ten I-16s from the SVG. Flying in V formations at 4500 m, the first flight of CAF fighters consisting of nine I-16s and three I-15s met with the first wave of 39 IJN aircraft near Qingshan at 1207. The 39 intruders were entering the city air space in three layers. Layer 1 consisted of nine flying at 6000 m. Layer 2 consisted of twelve flying at 5000 m. And Layer 3 consisted of eighteen flying at 4500 m. When the battle smoke settled, victories credited to the I-16s were as follow: Lo Yingde downed a Chuko near the Dongting Lake rear shore. Liu Zhesheng nailed a Chuko about 29km north of the airfield. Han Seng and Wang Yuenbo shared a Chuko kill near Tienxinzhou. Six Chukos also fell under the guns of SVG I-16s. Japanese records listed a key 12th AG pilot Hiromitsu Takahara KIA in the engagement. CAF casualties were as follow: s/n P-2107 I-16 piloted by 215th Squadron flight leader Chang Xiaoxen KIA near Daijashan. s/n 09 I-15 of the SVG crash landed near Huangdan. Its pilot bailed out.

**June 26, 1938:** During June and July, I-16s of the 215th Squadron and the SVG were assigned to escort SB-2 medium bombers to attack Japanese targets. At 0939, 48 Chukos and A5Ms attempted a sneak attack on Nanchang. Six SVG I-16s in two flights were airborne at 1030 and 1035 respectively to engage the raiders to enable the evacuation of the SB-2s and Hawk IIIs stationed at Nanchang. While the evacuation was still underway, the SVG I-16s were already engaging the first wave of Chukos. Meanwhile, the remaining CAF fighters at Nanchang (ten SVG I-16s, eighteen SVG I-15s, and five 4th

AG I-16s) scrambled to give support. Amidst heavy rain, SVG pilot Kobinka managed to shoot down two A5Ms whose wrecks were later recovered at Yangzizhou and Qingzhou respectively. At 1200, three Chukos and six A5Ms broke through the defending CAF ring to deliver twelve incendiary bombs at Hanger 2 and Hanger 3 at Nanchang airfield. three parked SB-2s, s/n B-1506, B-1534, and B-1568, were peppered with shrapnel. A Hawk III, s/n P-1368, sustained minor damage to the wing struts. The IJN attack group left Nanchang with three more A5Ms shot down and a Chuko trailing black smoke. CAF casualties were an SVG I-16, s/n P-5379 piloted by Kobinka (bailed out) and an SVG I-15, s/n P-3904 piloted by Speivich (KIA).

**July 4, 1938:** At 1229, 43 Chukos and A5Ms were reported heading for Nanchang. Station commander Chang Tingmeng at Nanchang promptly made the following arrangement: At 1345, three SB-2s of the 2nd AG would head west to attack the IJN home base at Hankou. At 1330, twelve SB-2s and four 15th Squadron Hs-123s were to evacuate to Jian. At 1330, eleven SVG I-16s, seventeen SVG I-15s, seven 4th AG I-15s, five 4th AG I-16s, and six 3rd AG I-15s would scramble to meet the invaders. They were to climb up to 5800 m and head south in two flights. One was to engage the A5Ms and the other was to attack the Chukos.

As planned, the I-16s and I-15s split into two flights after being airborne. The I-15s would tie up the A5Ms and leave the Chukos to the I-16s. When the five I-16s led by 21st Squadron leader Wang Yuenbo reached 5500 m, twenty-one Chukos were sighted at 12 o'clock high. Wang's group immediately surged forward for an attack from below. Meanwhile, the SVG I-16s also spotted the Chukos, so they joined in to attack from the flank. Wang's group made three passes causing a Chuko trailing black smoke. Witnessing the Chukos being attacked, the A5Ms attempted desperately to shake off the buzzing I-15s to race for the rescue. However, the SVG I-15s and the seven I-15s led by 23rd Squadron leader Chang Weihua were relentless. In the heat of the air battle, an I-15, s/n P-2310 piloted by Wang Yukun was hit at the fuel tank forcing him to disengage combat. His wingman Dong Yitai promptly filled the void to tangle with the A5M which was chasing Wang. Though Dong managed to squeeze a few rounds at his prey causing it to trail white smoke, he failed to bring it down. And the damaged A5M fled in the direction of Chengdu. Concurrently, squadron leader Chang Weihua was surrounded by four A5Ms. He was busy fighting his way out and could not do anything to relieve his wingman Xin Shouxin from being harassed by a swarm of A5Ms. Xin's I-15 was in flame when Chang shook off his antagonists to shoot down an A5M piloted by 12th AG PO1c Kyushichi Kobayashi. Kobayashi survived when his A5M crash landed at the Boyang Lake shore. He was captured as a POW. As Chang pulled up after downing Kobayashi, he was fired at from three A5Ms. His I-15 burst into flame. Though he bailed out to safety, he suffered minor burns. Chang's wingman Xin Shouxin was not as lucky. After bailing out from his burning I-15, he was machine gunned and killed by the pursuing A5Ms while parachuting down. Pilot Chang Zichao in Chang Weihua's group was also KIA in the engagement. The other two members of the group, Wang Yinhua and Li Tingkai returned to base safely. The SVG lost three I-15s and an I-16 with their pilots in the engagement. Japanese records

indicated that one of the key A5M pilots KIA in this air battle was PO2c Toku Murata.

**July 18, 1938:** At 0600, six Type 96 carrier bombers led by Lt Naomi Macumoto escorted by eight A5Ms were approaching Nanchang. 25 I-15s and I-16s flown by CAF pilots and SVG pilots rose to intercept. While the Type 96 carrier bombers and A5Ms drew out the defending CAF fighters, six Type 94 carrier bombers led by Lt Soichi Ogawa conducted a sneak strafing run against the unguarded Nanchang airfield. Three of the Type 94 carrier bombers even landed on the deserted airfield to set fire on the wrecks of the ten aircraft destroyed on ground (two SB-2s, two I-15s, four I-16s, one Hs123 and one Douglas 02MC).

The CAF lost one of its best pilots, Wang Yin of the 3rd AG, in this engagement. An SVG pilot was also wounded. The IJN did not fair any better either. Lt Mochifumi Nango, one of the most respected supreme warriors of the IJN failed to return to lead the 15th AG. He was rammed by an SVG pilot Victor Dodonov above the Boyang Lake. Japanese troops recovered Nango's body from the lake and gave him a full military burial a couple days later.

**August 3, 1938:** 70 Chukos and A5Ms were reported approaching Wuhan. The air raid siren at Hankou blasted off at 0950. 52 CAF fighters (fourteen I-16s, twenty I-15s, eleven Gladiators, and seven Hawk IIIs) stationed there scrambled within seven minutes to challenge the intruders.

Six of the fourteen I-16s were led by 24th Squadron leader Li Keyuan. They were split into two flights led by Li and Xu Boyun respectively. Shortly after airborne, Li and Xu spotted a Hawk III being attacked by seven or eight A5Ms at 4000 m. They immediately raced for the rescue. Xu caught a fleeting A5M and squeezed a few rounds to sever his victim's left wing. The amputated A5M augured into the roadside at Jayu. The A5M pilot, PO3c Namitaro Matsushima survived the crash and was taken as a POW. While Xu was busy shooting his victim out of the sky, his wingman Dong Qingxiang also caught another A5M chasing a Hawk III. He too managed to send that A5M earthward. The pilot of the downed A5M was identified as PO2c Hitoshi Fukasawa based on the ID found in the wreck. Xu's other wingman Cao Dinghan was not in the winning streak. He found himself at the receiving end of four or five A5Ms. Though Cao managed to stay out of harm's way, he had to ditch into the Jayu Tributary for an escape. Li and his wingmen Yang Daogu and Zhao Shichi also kept their hands busy with the buzzing A5Ms. The I-16s and A5Ms continued to lock horns for about ten minutes before calling it final for the day. five I-16s returned to base at 1100.

Another group of four I-16s was led by 26th Squadron leader Wang Hanfen. They were flying at 6500 m to escort the Gladiators flying at 5000 m. At 1030, the Gladiators found themselves being fired at by about twenty A5Ms near the Guodanqing Mountain. Wang and his group raced and dove for the rescue. Although Wang promptly wiped an A5M off the sky, he himself became the center of attraction of six A5Ms. Wang was hit more than 60 times! An extremely near miss was so close that it even nicked the left side of his leather helmet along with strands of his hair. A micro millimeter to the right would have taken away part of his skull! After chasing the A5Ms away, Wang's group and the Gladiators returned to base at 1110. The wreck of Wang's victim was later recovered in the valley of the Guodanqing Mountain. The dead pilot was

identified as the IJN 15th AG's LTJG Naohisa Shinjo.

The IJN lost a total of eleven A5Ms in this engagement. CAF casualties included seven losses (pilot Di Zengyi KIA in his s/n P-5821 I-15 and six other pilots wounded) and eight damaged (repairable).

**August 18, 1938:** Ten I-16s (three from the SVG, three from the 24th Squadron Su Xienren, and four from the 26th Squadron led by Huang Hanwen) led by the SVG in three flights fought with six A5Ms near Huanggang. The SVG bagged an A5M. The parachuted Japanese pilot was taken as a POW. Another A5M was shot down by 26th Squadron pilot Cai Mingyung, and a third A5M kill was shared by pilots of the 24th Squadron.

**November 15, 1938:** At 0500, three IJA 12th Sentai Br-20s were approaching Lanzhou. six I-16s (three from the 4th AG and three from the SVG) rose to intercept the intruders. At 0643, the leader of a three-plane SVG I-16 unit sighted a lone BR-20 attempting for a sneak attack on the airfield. They moved in for the kill. Their fusillade caused the BR-20, captained by Lt. Sueo Yamamoto to break off the bombing run. It fled hurriedly trailing black smoke.

**February 20, 1939:** At 1500, 30 IJA BR-20s attacked the Lanzhou Maintenance Center in three waves. 29 CAF fighters (fourteen SVG I-15s, one SVG I-16, nine 17th Squadron I-15s, four 15th Squadron I-15s and one 15th Squadron I-16) scrambled to meet the challenge from 1405 to 1412. nine BR-20 wrecks were found after the engagement in the following locations: Liujakou, Yuzhong County, Lankou County, Shiba County, Fanjachuan, Sijaping, Zhanjawan, and Jinyuan (2). CAF casualties included the following: The airfield repair shop was hit by more than 130 bombs. An I-15 and a Chance Vought V-92C were destroyed in the hanger. A Gladiator and two office buildings were destroyed. Pilot He Zemin crash landed his I-15 near Xigu City. He was slightly wounded at his left eyebrow.

Japanese records indicated that the IJA 98th Sentai flew the Italian-made bombers to raid an airfield at Lanzhou while Capt. Torao Ueda bombed military facilities at the south end. His bomber was lost at 1550.

KIA: Capt. Torao Ueda; Capt. IJN Takashi Nii; W.O. Eijiro Ichikawa; S.Sgt Yoshiro Aizu; S.Sgt Mieo Maruyama; S.Sgt Masanori Owada, S.Sgt Tanaka.

Around 1550, another bomber crashed near Tian about 25 km south east of Lanzhou.

KIA: 2nd Lt. Motoshige Matsuo; W.O. Takaharu Okuzume; S.Sgt. Gennosuke Shirokura; Sgt. Yoshinobu Uchida; Sgt. Yoshio Hasegawa; Cpl. Mitsuyoshi Ishizu.

**February 23, 1939:** At 1330, 38 IJA 12th Sentai Br-20s and 60th Sentai Ki-21s met with 31 CAF fighters (thirteen SVG I-15s, one SVG I-16, eleven 17th Squadron I-15s, three 15th Squadron I-15s, two Headquarter AG Hawk IIIs, and an I-16 piloted by Headquarter AG leader Mao Yingzuo) on their way to attack Lanzhou. Six Br-20s were shot down. Six CAF I-15s were damaged (s/n P-7130, P-7147, P-7172, P-7177, P-7188, and P-7197). Japanese records indicated that the downed Br-20s might be: crews of Lt. Masao Izeki (2nd Chutai); crews of Capt. Katsumi Makino (2nd Chutai); crews of Capt. Tadao Yamada (3rd Chutai). A couple of Ki-21s from the 60th Sentai were also damaged.

**June 11, 1939:** At 1755, more than 50 Chukos were reported approaching Chongqing. Midway near the Kai

County, 27 Chukos changed course toward Chengdu. 22 CAF fighters scrambled to intercept at 1845. An air battle erupted above Chengdu at 1925.

5th AG leader John Wong led nine I-15s in three flights were on CAP over Chengdu flying at 5000 m. At 1926, they descended to join the 17th Squadron's I-15s to attack six Chukos. The Chukos took evasive actions but one was still seen trailing smoke leaving the scene. All I-15s returned to Taipingzi airfield at 1955.

17th AG leader Sen Zeliu who also led nine I-15s in three flights was on CAP over Chengdu at 1923. Flying at 5000 m, they met head on with 27 approaching Chukos. Sen took the lead to barrel down onto his quarries. His wingmen followed suites. The Chuko formation was immediately dissolved by the attack and the ensuing pursuit of the stragglers was joined in by John Wong's nine I-15s. Meanwhile, 5th AG deputy leader Wang Hanfen also led four I-16s to take off to lend support. Pilot Ha Wenhui's s/n P-5333 I-16 had to abort after the take off because of an engine problem. The other three I-16s continued the CAP over Chengdu. No further Chukos were encountered. They returned to base at 1918.

**August 23, 1939:** At 1716, 27 Chukos were sighted flying past Shilipo. One of them attacked Yido at 1736 then turned homebound. The remainder split into two flights. Flight 1 attacked Xiaolongkong at 1937 while flight 2 attacked Chongqing at 1947. eighteen 4th AG I-15s based at Liangshan rose to challenge the Chukos at 1850. The I-15s also split into two flights after airborne. Flight 1 was led by 23'd Squadron leader Wang Yukun. Flight 2 was led by 22nd Squadron leader Yuan Jinxien. No Chukos were encountered so both flights returned to base at 1850. At 1750, six 4th AG I-15s at Guangyangba airfield took off for CAP. Five additional SVG I-16s joined the I-15s at 1908. The six I-15s split into two flights with group leader Liu Jihan and flight leader Wang Texien leading the flights. Liu and wingmen Yang Ichu and Dao Shiahua attack the Chukos from the front, right flank and rear several times inflicting minor damage. Wang and wingmen Sito Jen and Liu Yuntien continued to challenge the Chukos until they depleted their ammo. Meanwhile, the five SVG I-16s led by Kowsky with wingmen Mihailoff, Kuzman, Koenko, and Zhubaikov also fired at the fleeing Chukos. Their attack yielded no additional significant results. All I-15s and I-16s returned to base at 2105.

**August 30, 1939:** 42 Chukos in two flights were sighted passing Jiangling at 2210. Three 4th AG I-15s piloted by Dao Shiahua, Dung Qingxiang and Yu Bifeng rose from Guangyangba for CAP at 2340. They were joined by six SVG I-16s from Baishiyei at 2355. However, the Chukos were able to sneak by the I-15s and I-16s to unload at Guangyangba. Two parked I-15s on ground were heavily damaged. Another I-16s sustained minor damage and several other Hawk IIIs suffered minor fabric cover punctured by shrapnel.

**September 11, 1939:** 63 Chukos in two flights attacked Sichuan. The first flight of 36 flew pass Feng County heading west at 0925. The second flight of 27 passed Laiyang at 0937 then split into two groups. Group 1 bombed Badong at 1009. Group 2 attacked Laifeng in two waves at 1024 and 1029 respectively. The first flight went on to attack Lo County (Lo Xien) at 1140 and left at 1216.

22 I-15s of the 4th AG at Liangshan scrambled for CAP over Chongqing at 1052. These I-15s included nine led by

deputy group leader Zheng ShiaoYu, nine led by 23rd Squadron leader Wang Yukun, one from the 21st Squadron, and three from the SVG based at Guangyangba. They were supplemented by seven I-16s based at Suining led by 24th Squadron leader Li Wenxiang. Since their CAP area was Chongqing, they did not meet with the Chukos which were doing damage to Lo County.

**October 3, 1939:** None Chukos attacked Xiaolongkong at 0124. Four 4th AG I-15s joined forces with seven SVG I-15s and two I-16s to intercept the intruders. The 4th AG I-15s were piloted by Dong Qingxiang, Sito Jen, Chang Nanheng and Xu Jixiang. And SVG 2nd Squadron leader Badeachyev (s/n P-753 I-16) led the SVG fighters. They attacked the Chukos relentlessly but failed to shoot one down. Unfortunately, Badeachyev was also KIA in the engagement.

**October 4, 1939:** 50 Chukos in five flights (Flight 1 consisted of eighteen Chukos, each of the other four flights consisted of eight Chukos) attacked Baishiyei at 0135, 0235, 0210, 0254, and 0325 respectively. At 0043, 4th AG 21st Squadron leader Lo Yingde led three I-15s joined forces with six SVG I-15s and one I-16 to meet with the Chukos. Poor visibility curtailed their success in shooting down any Chukos. All I-15s and I-16 returned to base at 0235. Li Sukong's s/n P-2110 I-15 was slightly damaged on landing.

**October 25, 1939:** At 0900, 35 Chukos were reported approaching Chengdu. The air raid siren blasted off at 1130. At 1147, thirteen CAF fighters rose to intercept the intruders. The first flight of six fighters led by 5th AG leader John Wong consisted of one 5th AG I-15, two 17th Squadron Dewoitine 510s, and three 26th Squadron I-16s. The 2nd flight of seven 27th Squadron I-15s was led by deputy squadron leader Wang Denbi. At 1157, eleven more fighters consisting of seven 29th Squadron I-15s led by squadron leader Ma Guolen, three 26th Squadron I-16s led by squadron leader Cai Mingyung, and one 17th Squadron Dewoitine 510 (three were planned originally, two dropped out due to mechanical failures) were made available for the interception. The Chukos avoid contact and the attack was aborted.

**November 4, 1939:** 36 13th AG and 36 Kisarazu AG Chukos under the unusual arrangement of being commanded by Kanoya AG leader Cmdr. Miyazaki and Lt. Takejiro Onishi were intercepted by fourteen CAF 5th AG fighters near Chengdu at 1038. The CAF fighters, consisting of seven 17th Squadron Dewoitine 510s led by its leader Sen Zeliu, and seven 27th Squadron I-15s led by its leader Xie Chuenhe, were flying CAP over Taipingzi airfield at the time. At 1040, fifteen more fighters from the 5th AG consisting of nine 29th Squadron I-15s led by its leader Ma Guolen, and six 26th Squadron I-16s led by its deputy leader Wang Hanfen took off to lend supports. They were vectored to join Sen and Xie by GCS (Ground Control Station) via radio. The first flight of 36 Chukos was sighted by Xie's group at 1110. After several rounds of exchange, two Chukos were seen trailing smoke. Another Chuko crashed near Jiangyang in southeast Chengdu. Meanwhile, Sen and his men were waiting for the fleeing Chukos dispersed by Xie's I-15s. The Dewoitine 510s, being unsuited for the bomber intercepting role, were not very effective in the engagement. Constant machine gun malfunctions plagued the Dewoitine pilots amidst combat. three of the seven Dewoitine 510s (piloted by deputy leader Liu Jingong, and pilots Chen Xungwen and Li Bocheng) found their

MGs inoperable. Only Sen managed to shoot down a Chuko above southeastern Chengdu though several others were seen trailing smoke. Ma's group met the 2nd flight of 36 Chukos above Taipingzi airfield. They chased the raiders all the way to the mountainous areas near Jungxingchang in southeastern Chengdu. The Chuko tail gunners gave fight but their efforts were mauled down by Ma's I-15s. Several more Chukos were seen limping away trailing smoke. The Chuko flying the No. 2 position finally yielded and plunged earthward. Other fleeting Chukos flew right into the waiting arms of two of Wang's I-16s. And more damage was inflicted. Nonetheless, the other escaping Chukos still managed to dump their loads of more than 200 bombs at the Wenjiang airfield in southwestern Chengdu. A parked SB-2 was destroyed. Two other Fleet trainers parked nearby were hit by shrapnel. IJN Casualties: three confirmed Chukos shot down. Two wrecks were found near Jiangyang. A third wreck was found near Lozhe (further south east of Jiangyang). Japanese records provided two KIA lists of the 13th AG's loss for the day as follow:

KI#1 Capt. (IJN) Kikuji Okuda (Commanding Officer); Lt. Kaosaburo Hosokawa (pilot); Lt. Chiyoji Mori (pilot); Ens.(Tokumu) Kono (or Takano) Shigekazu (observer); PO2c Eitaro Hasegawa (pilot); PO3c Kinroku Takahashi (co-pilot); PO2c Shohei Kawamura (observer); PO3c Iwao Niwada (observer)

KIA #2: Sea1c Shigeji Kuratomi (observer); Sea1c Teruo Abe (observer); PO2c Masao Sato, (co-pilot); PO3c Isamu Saito (observer); PO3c Tsuneya Iizuka (observer); PO1c Yoshio Oyoshi (mechanic); PO3c Tsuguichi Iwashita (mechanic); PO2c Takashi Hoshi (mechanic); PO3c Shigeharu Sato (mechanic)

#### CAF Casualties

1. s/n P-2701 piloted by 27th Squadron leader Xie Chuenhe was hit on the propeller and cowling.
2. s/n P-2702 piloted by Wang Denbi was hit on the cowling and on the MG cooling jacket.
3. s/n P-2709 piloted by Huang Dongchuen was hit on the radiator heat dissipating fins and antenna.
4. s/n P-5921 Dewoitine 510 piloted by 17th Squadron leader Sen Zeliu was hit on the engine.
5. s/n P-5924 Dewoitine 510 piloted by Chen Guimin was hit on the fuel tank.
6. s/n P-2903 piloted by Deng Xunkai was KIA.
7. s/n P-2904 piloted by Chen Mengkun was hit more than 40 times.
8. s/n P-2907 piloted by flight leader Kun Shuming lost its right flap.
9. s/n P-2910 piloted by Yu Binwei ran out of fuel. He made an emergency landing short of reaching the Taipingzi airfield.
10. s/n V-2 piloted by Guo Chuenten ran out of fuel. He landed safely at Gonglai airfield.
11. s/n P-2901 piloted by Huang Guangqing was hit twice on the fuel tank.
12. s/n 2906 piloted by Yin Yan was hit three times on the fuselage and wings.
13. s/n P-2911 piloted by squadron leader Ma Guolen was hit twice on the fuselage.
14. s/n P-2604 piloted by Shi Guangjin made an emergency landing at a valley.
15. s/n P-2609 piloted by Duan Wenyu was KIA.

16. s/n 2605 piloted by Li Zhaochuen flipped over on landing. Li was not hurt.

**December 26, 1939:** 100 Chukos and A5Ms attacked Lanzhou in three waves. The first wave of 28 arrived at 0920. The second wave of 36 arrived at 0925. The third group of 36 arrived at 1025. nine SVG I-15s and four I16s were available to fight with the intruders. three Chukos were shot down. The kills were credited to SVG pilots Milinekov, Kuikyev, and Tupelev. The SVG lost three pilots in this engagement namely an I-16, s/n P-7526 piloted by flight leader Issayev, an I-16, s/n P-7524 piloted by Kerchev, and an I-15, s/n 53 piloted by flight leader Yerkov.

**December 27, 1939:** The IJN opened the bombing of Lanzhou with two scout planes over flying the city at 0530. The first flight of Chukos arrived moments later at 1030 followed by the second flight of 27 arriving at 1053. A third flight of 37 Chukos arrived at 1206. When the first flight of chokos appeared over head, they were dispersed by nine SVG I-15s and two SVG I-16s as follows: three I-15s led by Yurikov. His wingmen were Katasov and Bukonov. three I-15s led by Dobroskogen with wingmen Ivoshenko and Kunicha. three I-15s led by Krupnishi with wingmen Ivonov and Luken. And the two I-16s were led by Maclinikov with wingman Tupelov. A Chuko was shot down. The SVG I-15s and I-16s remained aloft to engage the second flight of Chukos which arrived at 1053. Another Chuko was shot down in the engagement. Upon landing for refueling, Yurikov's I-15 lube oil tank burst and Bukonov's I-15 was running rough. They were not available to intercept the 3rd flight of Chukos.

**December 28, 1939:** An IJN scout plane overflying the area was sighted at 0730. 98 Chukos in two large formations followed through at 1156 and 1200 respectively. They were again intercepted by eleven gallant SVG I-15s and I-16s. Krupnishi was credited for damaging two Chukos and Kunicha was KIA in the engagement.

**May 22, 1940:** At 0730, 54 Chukos bombed Baishiyi airfield in Chongqing. The CAF could only scramble twelve I-15s (five from the 4th AG and seven from the 5th AG) and six 4th AG I-16s aloft. By 0900, they were forced to land because of empty fuel tanks. The Chukos promptly took the opportunity to destroy three I-16s (s/n P-7502, P-7505, and P-7506) and nine I-15s (s/n P-7101, P-7118, P-7127, P-7135, P-7150, P-7178, P-7182, P-7188, and P-7201) on the ground.

**June 12, 1940:** At 1100, 117 Chukos and A5Ms attacked Chongqing in four waves, The first three waves were consisting of 27 each. The last wave had a strength of 36. They soon found themselves in combat with eleven I-15s, a Hawk 75, and five Hawk IIIs. By 1150, five I-15s had to be withdrawn from combat for refueling. They were replaced by seven I-16s (two from the 4th AG and five from the 5th AG). The air battle ended at 1215. The IJN lost three Chukos in this engagement. Though no I-16s were lost, the CAF did lose three other fighters and suffered another twelve damaged during the air battle.

**August 11, 1940:** 29 CAF fighters (seven 4th AG Hawk IIIs, sixteen 4th AG I-15s, four 4th Av I-16s, and two 3rd AG I-16s) rose to intercept 90 Chukos and A5Ms on their way to attack Chongqing. In this engagement, each of the CAF fighters was armed with four 10-kg experimental aerial bomblets. The experimental aerial bomblets were meant to be released above the Chuko formations. It was obviously

not an effective *modus operandi* as only two Chukos were lost in the process. Of the six I-16s led by 24th Squadron leader Gong Yeti, two were damaged in this engagement: s/n P-2415 piloted by Wang Wenhua was hit on the right wing and s/n P-7540 piloted by Zeng Dachi was hit by a cannon shell on the left wing.

**September 13, 1940:** The CAF suffered the heaviest loss in this engagement when 25 I-15s (ten from the 4th AG led by group leader Zheng Shaoyu, nine from the 4th AG led by 23rd Squadron leader Wang Yukun, and six 3rd AG I-15s led by 28th Squadron leader Clifford Louie) and nine I-16s (six from 3rd AG 24th Squadron and three from 3rd AG 8th Squadron led by 24th squadron leader Yang Mengqing) rose to intercept 27 Chukos escorted by thirteen Zeros. The I-15s and I-16s were simply outclassed by the Zeros. At the end of the fierce 30-minute air battle over Bishan, twelve I-15s and an I-16s were lost and eleven more I-15s were heavily damaged. eight pilots were wounded: Zheng Shaoyu, Chen Shingqing, Wang Texien, Wang Guangying, Wu Zhenhua, Gong Yeti, Ha Wenhua, and Xu Jixiang. ten pilots were KIA: Yang Mengqing, Cao Fei, Liu Yingyi, He Zemin, Chang Hungjoa, Sito Jen, Yu Bifeng, Huang Dunchuan. Kan Baozhong, and Lei Tingzhi.

By the end of September 1940, the CAF had a total of 65 fighters available to defend the entire country. These included 36 3rd AG and 4th AG I-15s, I-16s, Dewoitine 510s, Gladiators and Hawk IIIs, and 29 I-15s, Hawk IIIs and Fleet trainers from the Flight School. 3rd AG leader Zhang Gangming commanded the 36 planes. He divided the entire air space of the country into five defense districts. The goal was to minimize further losses by avoiding air combat with the overwhelming Japanese forces. In addition, wooden decoys of SB-2s, I-15s and I-16s were placed in strategic locations in various airfields to protect the real Soviet supplied hardware from strafing. On October 13, 1940, when the 15th AG Chukos and Kates, and 14th AG Zeros raided Maojaba, there were no CAF fighters in the area available to intercept. Clair Chennault, then a special advisor to the CAF, was actually confined for three hours in the air raid shelter during the attack. This experience might have fostered Chennault's advocacy to establish the AVG.

**October 4, 1940:** At 1200, 27 Chukos escorted by eighteen Zeros attacked Chengdu. 36 CAF fighters led by 32nd Squadron leader Chang Guanming to meet with the intruders were consisting of the following:

- a) 9 I-15s, two Dewoitine 510s, and a Gladiator from the 3rd AG flying at 5000 m.
- b) 3 I-15s and two Hawk IIIs from the Flight School flying at 5200 m.
- c) 9 4th AG I-15s flying at 5500 m.
- d) 6 18th Squadron Hawk 75s flying at 5500 m.
- e) 4 I-16s from the 3rd AG and 4th AG flying at 5500 m.

They concentrated the attack on the Chukos and wisely avoided combat with the Zeros. Therefore, only two 18th Squadron Hawk 75s piloted by Gu Yong and Shih Ganjing were lost. Gu ditched into the Wen River but survived. Shih bailed out but his parachute failed to open. Other CAF casualties were as follow: The Chukos escorted by eighteen Zeros unloaded their bombs at the Northeastern district of Chengdu at 1225. Damage to the civilian population was slight. fourteen planes were destroyed on ground at the Taipingzi airfield

including two I-15s, two Hawk IIIs, and six Fleet trainers belonging to the Flight School, a Beechcraft Traveler, and two I-16s belonging to the 3rd AG, and a Hawk 75 belonging to the 18th Squadron. A 3rd AG Dewoitine 510 was also heavily damaged. An 8th AG DB-3s s/n 65 developed engine problems during the evacuation flight to Xiangliu airfield. It was caught up by the Zeros near the Tayeo Lake. Pilot Wang Qi, bombardier Lu Guomin, and gunner Yang Bawei were KIA. A 3rd AG I-fifteen s/n 5822 piloted by Jin Wei accompanied a Gladiator piloted by Liu Jon were ambushed by Zeros near the Taipingzi airfield. They detoured to the Gonglai airfield nearby. Liu landed safely but Jin crash landed the damaged I-fifteen. A 3rd AG 28th Squadron I-fifteen, s/n P-7218 piloted by Xin Jiaoxi was running rough on the return flight to base. He had to make an emergency landing at the riverbank near the Yuantung Bridge. A 4th AG 23rd Squadron I-fifteen, s/n P-2120 piloted by Liang Jinsheng was vibrating violently on the return flight to base. The vibration caused the machine guns to fire accidentally shredding the propeller. The I-15 went into a spin and went out of control near the Fenghuang Mountain. Liang bailed out safely.

**October 26, 1940:** At 0752, an IJN scout plane flew past Liangshan to turn east at 0820. At 1045, eight Zeros approached Guangan prompting the 3rd Air Force Command at Chongqing to issue an order to evacuate the CAF fighters in the area to Gonglai airfield for safety. The 35 fighters to be evacuated were as follow. 3rd AG: five I-15s, two I-16s, and two Dewoitine 510s. 4th AG: thirteen I-15s, five I-16s, and six Hawk IIIs. 18th Squadron: two Hawk 75s. Other planes to be evacuated included a few DB-3s, SB-2s, Vultees, Junkers, Vought V-92Cs, and Douglas 02Ms. The 35 fighters were to be divided into three flights after airborne as follows. Flight 1: thirteen 4th AG I-15s. Flight 2: seven 3rd AG and 4th AG I-16s and two 3rd AG Dewoitine 510s. Flight 3: five 3rd AG I-15s, six 4th AG Hawk IIIs, and two 18th Squadron Hawk 75s

At 1125, the five I-15s in Flight 3 split into two units upon the take off. They were on the way to the Gonglai airfield flying at 3700 m when the Zeros ambushed them. Unit 1 led by Zhang Gangming with wingmen Wang Jijie and Wu Xiangjie fought tenaciously with the Zero. Despite their efforts, Wang's s/n P-1573 was shot down near the tall bridge at Gonglai. Wu's s/n P-1756 received hits that causing the I-15 to spin. Wu bailed out only to be attacked by the Zeros while parachuting down near the Pengshan County. He was hit five times at the thigh, a hit on the left wrist, and nicked at the neck and back. Zhang managed to escape and caught up with the Hawk IIIs to continue the exodus to Gonglai airfield.

Unit 2 led by Mo Daxen and wingman Liu Wenlin also fought with the Zeros. Mo escaped injury but Liu's s/n P3-578 was shot down near the Pengshan Cemetery. Liu survived the crash but died on the way to the hospital.

Other Zero victims on that day were: s/n 30 Vought V-92C piloted by Jin Reshan with rear gunner Zhang Linqing was damaged by the Zero attack. They nursed the wounded bird to Gonglai. Zhang sustained minor injury. s/n 271 Junkers W13 piloted by Xin Kuei with co-pilot Li Weiqiang and Mechanics Wang Fulai was shot down near the Xonggong Bridge at Gonglai. All on board perished.

**April 29, 1941:** At 0917, twenty-one Chukos were reported flying over Heyang, Shaanxi. The CAF 4th Command at Lanzhou ordered the evacuation of bombers in the



area and the following fighters to be led by SVG Capt. Pankov for CAP over the corridor between Lanzhou and the airfield:

Flight 1: six 4th AG I-16s led by 24th Squadron leader Liu Zhesheng to fly at 6000 m. Flight 2: seven SVG I-15s to fly at 6500 m. Flight 3: six 4th AG I-153s and one 5th AG I-153 to be led by 21st Squadron leader Chen Shingqing to fly at 7000 m. The following aircraft were to be evacuated to other airfields: eight 8th AG DB-3s to Yungchang, three 2nd AG SB-2s led by 9th AG leader Yang Zhongan to Weiwu. A 4th AG I-153 to Zhongchuan.

Flight 3 met with 27 Chukos near west Lanzhou at 1258. However; 21st Squadron leader Chang Kongwen and wingman Zhao Baiying lagged behind the main group in altitudes because their I-153s lacked oxygen equipment. Only five I-153s were available to jump the Chukos. Unit leader Sun Baxien knocked out the No. 3 Chuko of the 3rd unit in the 3rd flight in two passes. The wreck of the downed Chuko with dead crews was found in a valley south of Lanzhou. Sun and wingman Wang Qingli continued to press the Chuko formation forcing the Chukos to jettison their bombs prematurely. Damage to the airfield was insignificant.

Flights 1 and 2 did not meet with the Chukos. However, an I-16 piloted by Yu Xuechi was forced to return to base after airborne because its landing gear would not retract. Another I-16 piloted by Wu Jinhua stalled at 3500 m. He too was forced to abort the evacuation.

**May 22, 1941:** At 1005, Chukos from the Genzan and Mihoro AG escorted by twelve Zeros were reported heading for Lanzhou. The CAF 4th Command at Lanzhou ordered the evacuation of all aircraft in the area as follow: Flight 1: At 1005, seven SVG I-15s led by Cpt. Pankov to evacuate Xigu City.

Flight 2: At 1020, eight I-153s led by 21st Squadron leader Chen Shingqing to evacuate to Sining.

Flight 3: At 1022, seven I-16s led by 24th Squadron leader Liu Zhesheng to evacuate to Weiwu. 9th AG leader Yang Zhongan would lead the I-16s flying s/n 1722 SB-2.

One of the seven I-16s, s/n P-7593 piloted by Yu Xuechi, was forced to divert to Xigu because of a landing gear problem. The remaining six I-16s and the SB-2 were also forced to divert to Xigu because of bad weather. At 1205, as the I-16s and SB-2 landed, 25 Chukos were sighted flying overhead. Unit leader Guo Yusun immediately restarted his I-16 for CAP over the airfield. His quick reaction gave him time to intercept a formation of nine Chukos heading for the airfield. In Butch O'Hara style, Guo single handedly challenged the nine Chukos. Guo made three passes which broke the Chuko formation and caused the No. 2 Chuko of the 3rd Unit trailing black smoke. The other Chukos jettison their loads hurriedly. Heavy damage to the airfield was thus averted. Only Li Tingkai's s/n P-7587 was found to have eight holes punctured by shrapnel. The wreck of the Chuko downed by Guo was later found near Haiyuan.

Meanwhile, 24 Chukos escorted by nine Zeros were reported passing Yichang at 1010. The CAF 3rd Command at Chengdu ordered the evacuation of all aircraft in the area at 1038 as follows: SB-2s of the 2nd AG to evacuate to Sichang. I-153s of the 4th AG to evacuate to Guangyuan. I-153s of the 5th AG to evacuate to Cheng County. I-15s of the 11th AG, I-153s of the 4th AG, and a 5th AG Bellanca to evacuate to Baoxing with a fuel stop at Gonglai. SB-2s of the 12th AG and Flight School Beechcraft "Traveler" trainers to

evacuate to Chaotung. Beechcrafts of the Air Transport Group to evacuate to Nancheng. Douglas 02Ms, North America and Fleet trainers to evacuate to Yaan. All other 11th AG I-153s and I-16s undergoing repair at the site were to be camouflaged.

At 1415, the 24 Chukos began the bomb run at the Taipingzi airfield. CAF casualties included eleven ground crews killed, seventeen ground crews wounded, a s/n P-7134 I-15 and a s/n P-5606 Ryan trainer, and two M-87 engines were damaged by shrapnel.

At 1355, nine Zeros strafed the Gonglai airfield inflicting the following casualties: six 11th AG I-16s, one 4th AG I-153, and a 5th AG Bellanca were destroyed on ground. Other parked North America trainers, an I-15, a Hawk III, and a Fuxing trainer received minor hits.

**June 22, 1941:** At 0459, an IJN scout plane was spotted flying past Ganyang. At 0520, the CAF 3rd Command at Chengdu ordered two I-16s and six I-153 of the 4th AG, and four I-153s of the 5th AG to take off for CAP as follow: Flight 1: two I-16s to fly CAP above Chengdu. Flight 2: two I-153s to fly CAP above Taipingzi airfield. Flight 3: two I-153s to fly CAP above Xiangliu airfield. Flight 4: two I-153s to fly CAP above Wenjiang airfield

Flight 5: two I-153s to fly CAP above Fenghuangshan airfield. Flight 6: two I-153s to fly CAP above Gonglai airfield.

At 0803, six Fleet trainers (two from the 4th AG, one from the 5th AG, one from the 11th AG, one from the 12th AG, and one from the Glider School) and three Douglas 02Ms (one from the 12th AG, and two from the Reconnaissance Group) were ordered to evacuate to Yaan for safety. At 0821, eight SB-2s (four of each from the 4th AG and 5th AG) were also evacuated to Jianguo. A CAF Command SB-2, five Beechcrafts (three Travelers from the Transport Group and two Staggerwings from the CAF Command), and sixteen I-153s from the 4th AG and 5th AG were to evacuate to Nancheng.

The Chukos and Zeros attacked Yaan and Fenghuangshan airfields at 1025 and 1047 respectively. The CAF suffered the following casualties: An SB-2, s/n 1999, of the 11th Squadron, 2nd AG piloted by Yang Guanying was ambushed en route to Yaan (the SB-2 lagged behind the main group due to an engine problem) by seven Zeros at 1050. Yang was KIA. Radio Operator Zhu Meichon bailed out but was machine gunned by the Zeros while parachuting down. His left leg was hit. Bombardier Long Kon parachuted to safety. 29th Squadron leader Tan Chekli led six 5th AG I-153s to join ten I-153s of the 4th AG to evacuate to Nancheng. Tan's I-153 was swayed off the course by air streams near Zitang to collide with his wingman Chen Tuji. Chen bailed out and parachuted to safety. Tan nursed his wounded I-153 to make an emergency landing at Guangyuan. Its propeller and upper right wing tip were damaged on landing. A 21st Squadron, 4th AG I-153 piloted by Auyang Ding sustained damage on landing. A 12th AG Douglas 02M piloted by Dai Yuanyi with backseater Wang Jiyan was caught on the take off run when the Japanese attack initiated. Dai was hit on the thigh but Wang was not hurt. Damage on the 02M was repairable. A Beechcraft Traveler, s/n 10016, piloted by Hong Yangfu was attacked by Zeros. He managed to escape and made an emergency landing at a nearby river bank at Guangyuan. The ditched Beechcraft was later recovered and repaired.

Another Traveler, s/n 10012 piloted by Wang Zixin was shot down near Chejaba. Wang was wounded, his copilots Lo Weiying and Chang Shouying, radio operator Wu Yichuan, and mechanics Bu Huaifen were KIA. A Beechcraft Staggerwing, s/n 19, from the Air Transport Group piloted by Chang Juncheng and Cheng Yun was ambushed by eight Zeros near Tianshui. Chang took evasive actions to make an emergency landing in a valley. Despite being hit by more than 40 times, the Staggerwing landed safely. The damaged Staggerwing was eventually recovered and repaired.

By 1941, the remaining I-15s and I-16s in the CAF were disproportionately outclassed in performance characteristics by the superior Zeros. It was prudent for the CAF to avoid further confrontations with the Zeros. Nonetheless, the effect of attrition of the Soviet supplied planes would still gradually

tighten its grip as the numbers of Soviet planes in the CAF service continued to dwindle. Replacements of the lost fighters were not available as the Soviets began to put all its resources to thwart off the Nazi's invasion in mid 1941. Hence, the Chinese Government turned to the United States for assistance to rebuild the CAF. During the interim before the United States entered the Pacific War, the defense of the Chinese sky would fall onto the shoulders of a handful AVG (American Volunteer Group) pilots. Meanwhile, The Japanese Government's attention was also beginning to shift to the Pacific in participation of the eventual conflict with the United States. Henceforth, engagements in the Chinese sky between the CAF I-16s and IJN aircraft eventually withered.

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### January to May 1938

Air Group	Squadron	Number of I-16s Purchased	
	4th	21st	16
5th	24th	7	
SVG	1st	39	

The 26th Squadron went to Xiangyang for I-16 flight training.

### June to December 1938

Air Group	Squadron	I-16s Remaining	Replacement	Attrition
4th	21st	9	0	7
5th	24th	0	6	7
5th	26th	9	0	0
SVG	1st	1	0	23
SVG	2nd	0	8	0

### I-16s Transferred to Lanzhou

Date	Number of I-16s in Service
October 29, 1937 to April 25, 1938	92
November 12, 1937 to July 28, 1938	86

### I-16 Trainers Purchased

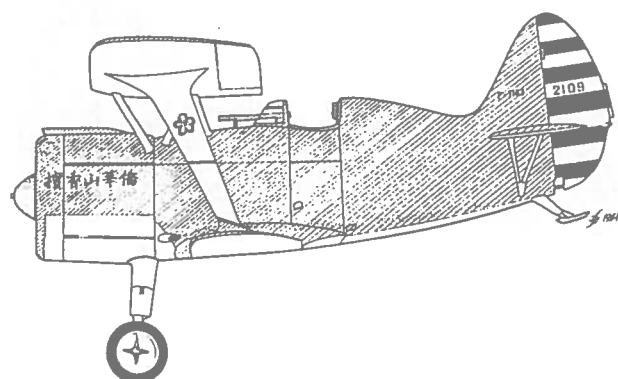
Date	Number of I-16 Trainers in Service
December 15, 1937 to July 20, 1938	8
November 12, 1938 to December 14, 1938	8

### New I-16s Purchased

Date	Number
July 12, 1939 to August 11, 1939	40*
July 28, 1939 to August 18, 1939	27**

\* ten were donated by the citizens of Xinjiang Province

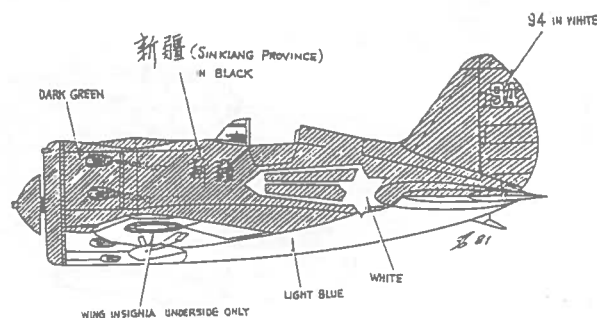
\*\* thirteen were written off due to accidents



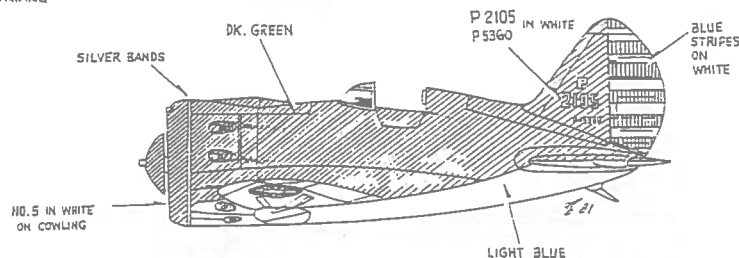
I-153: Flown by Col. C. S. Liu, top Chinese ace with 11 1/3 "kills". Aircraft was olive drab over light grey. Dark brown spinner. Blue/white rudder stripes. Number '2109' in black. 'P-7163' and Chinese inscription in white. Bands on wing struts are red. Plum flower is yellow with red outline & black details. National insignia only on upper surfaces of wing.

SAFO #31 April 1984

Drawings by D.Y. Louie



CHINESE I-16 TYPE 10 1936 TEN AIRCRAFTS OF THIS TYPE WERE DONATED BY THE PROVINCE OF SINKIANG



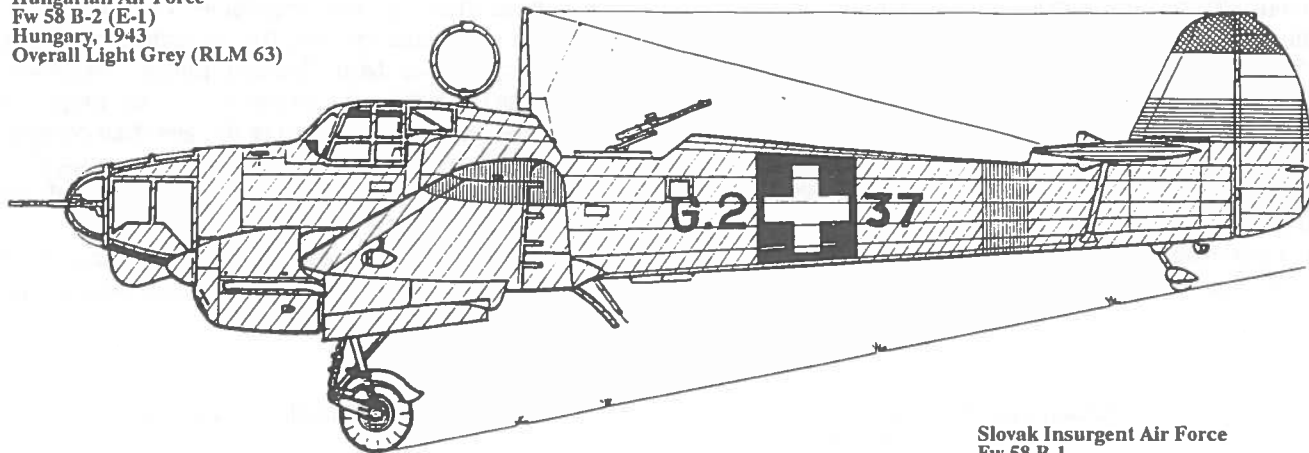
A/C OF TOP CHINESE ACE COL. C. S. LIU (11.33 VICTORIES), 1938 (MARKING DETAILS BASED ON MR. LIU'S PERSONAL ALBUM)

SAFO April 1981

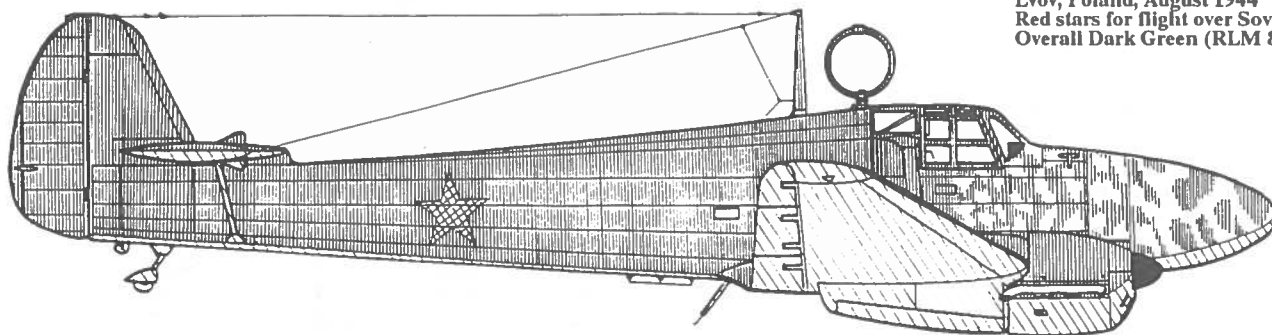
# Focke Wulf Fw 58 Weihe

Hubert Cance (SAFCH #809)  
56 Bd. E. Lintilhac  
15000 Aurillac, France

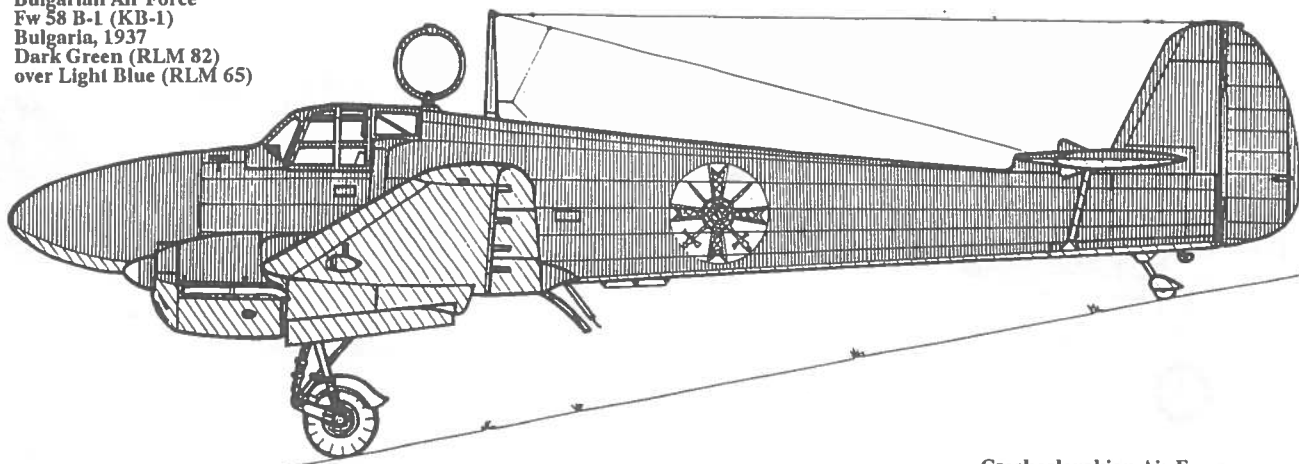
Hungarian Air Force  
Fw 58 B-2 (E-1)  
Hungary, 1943  
Overall Light Grey (RLM 63)



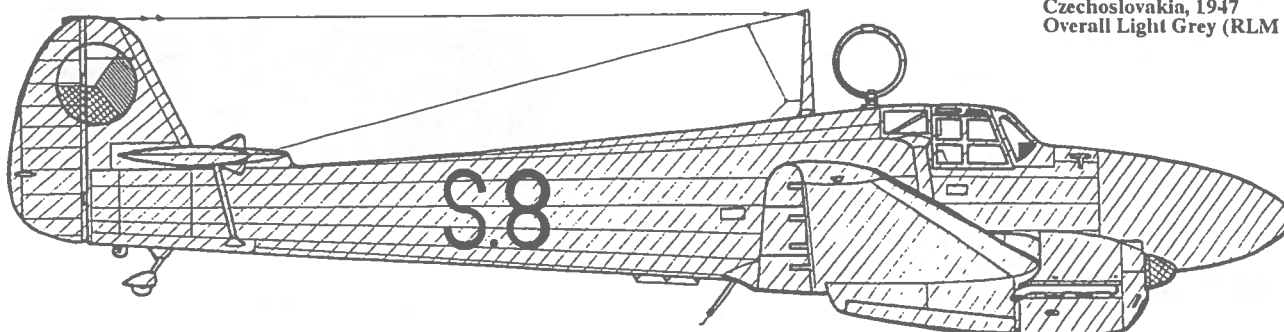
Slovak Insurgent Air Force  
Fw 58 B-1  
Lvov, Poland, August 1944  
Red stars for flight over Soviet territory  
Overall Dark Green (RLM 82)



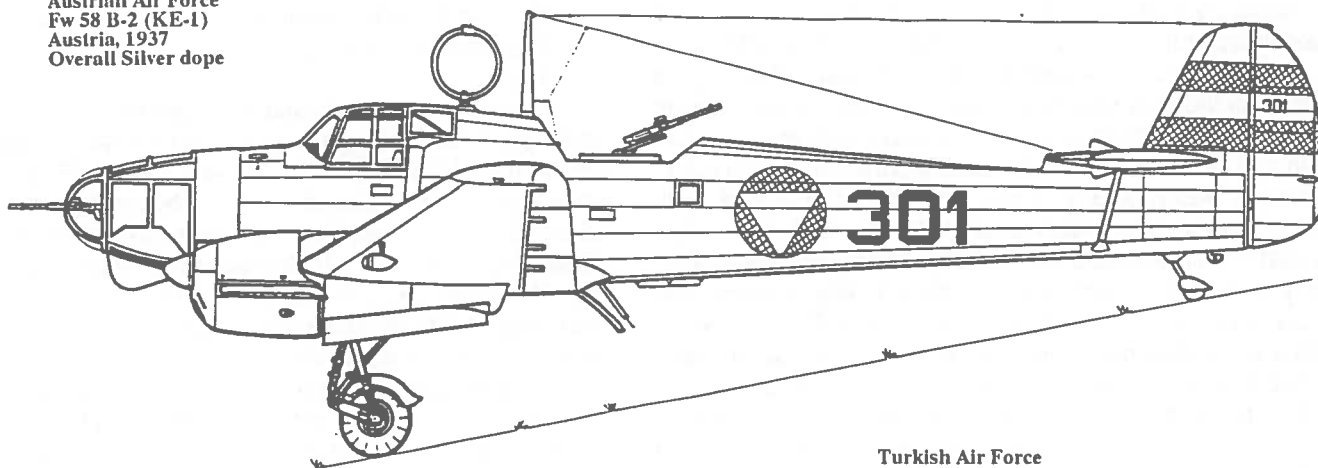
Bulgarian Air Force  
Fw 58 B-1 (KB-1)  
Bulgaria, 1937  
Dark Green (RLM 82)  
over Light Blue (RLM 65)



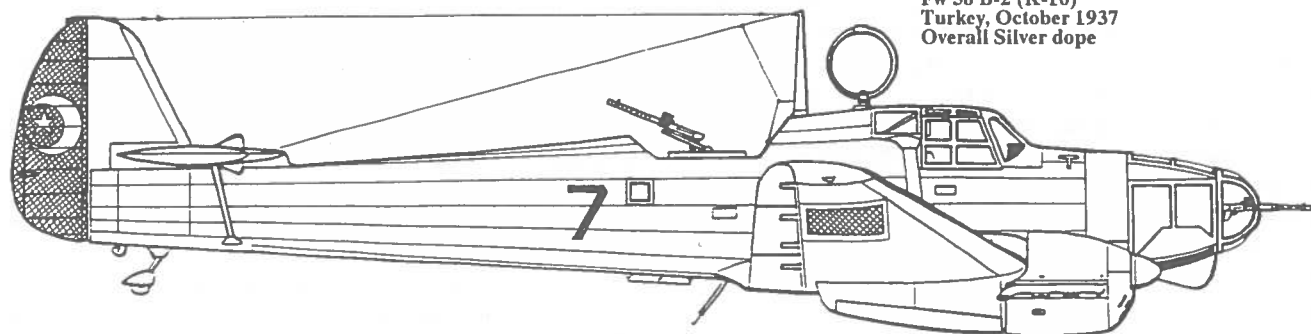
Czechoslovakian Air Force  
Fw 58 B-1  
Czechoslovakia, 1947  
Overall Light Grey (RLM 75)



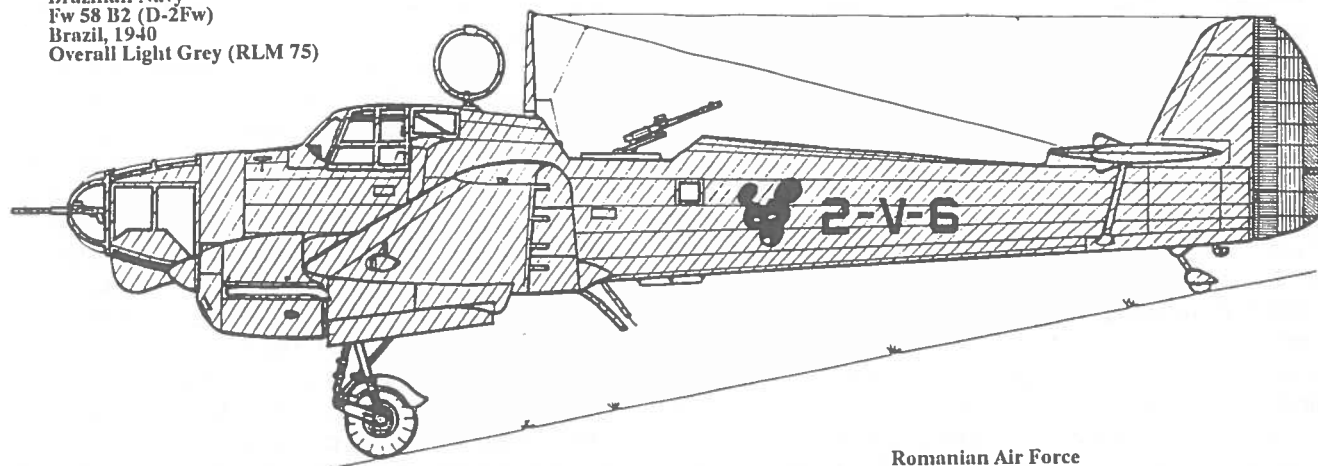
Austrian Air Force  
Fw 58 B-2 (KE-1)  
Austria, 1937  
Overall Silver dope



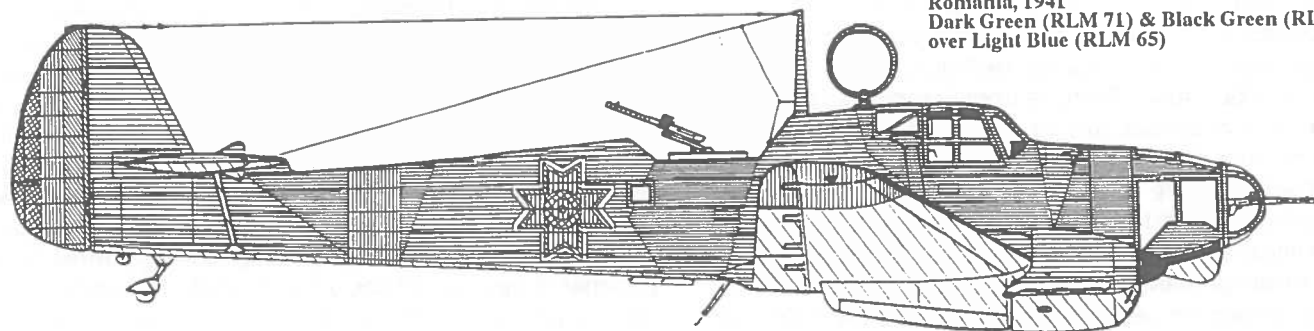
Turkish Air Force  
Fw 58 B-2 (K-10)  
Turkey, October 1937  
Overall Silver dope



Brazilian Navy  
Fw 58 B2 (D-2Fw)  
Brazil, 1940  
Overall Light Grey (RLM 75)



Romanian Air Force  
Fw 58 B-2  
Romania, 1941  
Dark Green (RLM 71) & Black Green (RLM 70)  
over Light Blue (RLM 65)



# Resin Roots, Rise, and Range Brief Look at Czech Resin and Related Modeling

Bill Devins

About 25 years ago modelers began discovering kits of unexpected subjects from an unlikely source made of an unusual substance. The subjects were off-beat and rare types we'd never thought would be available as kits, the source was Czechoslovakia, and the substance was polyurethane resin. Resin was new to most of us, usually greenish-grey in color, somewhat waxy, and at times both very brittle and fairly pliable. Poured into molds as a liquid and cast rather than injected under pressure and molded, resin parts were often heavy. Wings and fuselages were cast as solid pieces, with simple openings representing cockpit areas. The number of parts was kept to a minimum; tail units were often cast in place on their fuselages. Smaller parts were found floating in a thin wafer of the material, rather than attached to a tree or sprue. Resin parts could not be bonded by chemical welding as with plastic pieces, but had to be joined using agents like epoxy or cyanoacrylate glue. The material could be readily sawed, carved, and sanded and it held paint well. The resin parts came sealed into segmented plastic bags; no boxes, decals, or instructions were included with the kits, which were imported rather sporadically to the West. With the choice of offbeat, often unheard-of, subject matter, modelers of esoteric aircraft had found a hidden gold mine of kits; early types included the long-sought and otherwise unavailable Kawanishi Rex and Brandenburg W.29, and many others operated by small air forces.

**Czech Roots:** The men behind the original resin aircraft models, which came to be known as Czech Master Resin Kits, or CMK, were a group of aviation hobbyists and enthusiasts in and around Prague. Some of them had worked for Kovozvody Prostějov (KP or KoPro), the major kit manufacturing company in Czechoslovakia. Experimenting with methods of copying their original models, they adapted and refined the technology of casting resin into silicon rubber molds. As both RTV (room temperature vulcanizing) silicon rubber and polyurethane resin cure, like epoxy, from a chemical reaction between a base and a catalyst, large amounts of heat and pressure are not required to produce a model, as with standard injection molding. This meant that small quantities of models could be produced by one or more people with a minimal investment in equipment and space. In 1990 the original CMK group split in two; the CMK logo went to a new, "professional" company. The source operation, still considered an amateur group, became CMR, denoting Czech Master Resins; both continue to produce kits today.

Successive releases brought improvements in quality and ingenuity. Resin casting technology of 1/43scale automotive kits, especially those from France, began exhibiting improved materials and increased detail, including the capture of three-dimensional internal features made possible by the flexible nature of temporary silicon molds. Soon the Czech casters began to take advantage of these capabilities. Surface finish and small details improved at the same time. Hollow fuselage halves, often with cast-in internal detail, began to appear on various models. Today's CMR kits contain multiple bags full of parts exhibiting a phenomenal level

of surface and interior detail, with instructions, decals, painting diagrams, and even color "cover" inserts in their plastic pouches.

Early on, some provisional arrangements were made with other short-run kit producers around the world. Many vac-forms from Airmodel/Frank, Eagle's Talon, VP, and Wings have their roots in Czech Master Kits masters and molds. Likewise, a few limited-run low-pressure injection molded plastic kits from Meikraft, Merlin, and Pegasus were made from CMK masters, but most of these temporary associations did not last. HBM began an affiliation with CMK and their 1/200 resin replicas, along with VK models and many other available resin brands, are Czech made. **Rise of Resin and Related Technologies:** After the establishment of CMK as a professional enterprise, a group of the Czech modelers formed MPM in 1988. Due to limitations on the size of private enterprises within the state socialist system in Czechoslovakia at that time, it was established as a small company providing "services" for plastic modelers. They began by marketing boxed vac-formed plastic kits, with resin parts made by the same method as CMK, including instructions and decals. This marked a major upgrade in the presentation of vac-formed aircraft kits. Soon, MPM started experimenting with limited-run injection molding, replacing the resin detail parts in their kits with plastic pieces. Successfully improving their injection molding technology concurrent with changes in the political system in Czechoslovakia allowed the formation of MPM Ltd in November 1989. This newly enlarged private enterprise began producing complete injection molded kits.

This foray into the traditional plastic kit industry quickly blossomed into a boom of Czech kit manufacturers. With CMK Design Studios at its heart, producing most of the kit masters, MPM Ltd has expanded to comprise the following labels: MPM, MPM Short Run, Cooperativa, Condor, Special Hobby, and Azur in plastic and CMK, Classic Resin Airframes, HML, and Planet Models in resin; Alliance Resins is a closely allied operation. Plastic kits from Aviation Usk are all produced through CMK, and Classic Airframes models also originate with them. After Czechoslovakia split into two independent republics in 1993, a second large professional model company, Eduard Accessories Ltd, was established in the Czech Republic. Initially producing photo-etched metal detail sets, Eduard has expanded to manufacture high-tech limited-run injection molded plastic kits and Express Masks painting aids. Many other companies producing plastic and resin have been established in the Czech Republic since 1990. The most successful of these include Bilek, Pavla, Sword, AML, and Attack; additional labels within these operations, such as Pavla's new Octopus marque, make it seem as if each new model comes out under its own logo! Along with the pre-independence operations of KP and Smer, these companies combine to make the Czech Republic the most prolific provider of new model kits. A number of independent Czech resin producers also contribute to this growth, including A + V, Hippo, HR, Kora, LS, Omega, RS Models, RVHP, and



\*\*\*\*. A couple more plastic kit producers, among them Aeroteam and Model News, released a few kits before folding.

Around the world additional resin producers started to sprout up, often gearing themselves to a specific aviation niche. In Japan, Raccoon models established a series of 1/48 kits of overlooked Japanese subjects. Sugimoto Izumi initiated the Fabric Time Specials line of 1/72 WWI kits under the name T C Berg, then switched to his superb and continuing Men and Machines range of 1/48 racing aircraft kits with his Noix label. His two most recent releases, the Pulitzer Trophywinning Curtiss CR-2 and R3C-1, kits No 21 and 22 respectively, are landplane versions of prior seaplane releases. With outstanding resin and cast metal parts and top-rate decals, these kits remain at the pinnacle of resin productions. A number of French companies, including Replica and NovArt/Dujin in 1/72, and Sinifer along with Pend Oreille of the USA in 1/48, cast resin replicas mostly of unusual French subjects. Elsewhere in Eastern Europe, Polish enthusiasts began manufacturing specialty resin aircraft kits. Top Gun has concentrated on outstanding 1/72 models of Swedish and Polish aircraft, while Choroszy-Modelbud has grown to create some of the most complex and finest resin kits available, mainly of Japanese and Polish subjects in 1/72 and 1/48 scales. Up in Sweden, Daedalus has issued some 1/72 kits and conversions for Flygvapnet types, while down in Spain, Dekno has expanded on its original focus of Spanish Civil War aircraft to eventually produce the Sikorsky S-43, one of the largest 1/72 resin seaplanes available. Almost all of these products come boxed with some form of instructions and decal markings.

Back in Prague, the new injection molded kits evolved rapidly. With major components in plastic, they frequently incorporate vac-form canopies of the type customarily included in CMK resin kits. Often engines, interiors, and other small details are made of resin. Using established resin techniques to replicate delicate or detailed parts that could not be adequately molded by low-pressure plastic injection methods allows a much greater overall flexibility. The addition of photo-etched frets with so-called "film" instrument panels, another modeling technology perfected in the Czech Republic, elevates these kits to true multi-media presentations. Some early all-plastic MPM kits have even been re-released as "Upgrade" kits with the inclusion of new CMK resin details; their Hansa-Brandenburg W.29 is offered both ways, for example.

Sometimes the relationship between an original resin kit and a subsequent plastic release, either vac-formed or injection molded, can readily be seen. I have both a Merlin short-run and CMR resin 1/72 Curtiss R3C-2, and they were clearly derived from the same master. Merlin once released a version of this kit in white metal, so that master surely must have made the rounds! The Aviation Usk seaplane kits I have also derive directly from Czech resin masters; their plastic IMAM Ro-43 even has the same scratch on the fuselage side that is evident on my CMR resin version, which is packaged by Eagle's

Talon. Certain Alliance kits are repackagings of Czech Masters Kits (CMK), with decals, instructions, and strong cardboard boxes with colored tops. Using an existing plastic part for a master can save the caster some time, and I have occasionally spotted evidence of parts with plastic kit origins, especially engines or other small details, in a resin kit.

Dealing with Resin: Some care should be taken when working with polyurethane resin. Do not breathe in the resin dust created by sanding the castings. Use wet-n-dri paper and lots of water to hold down the airborne swarf, and wear a mask to keep it out of your lungs. Wet sanding the soft material is easier to control also. As noted already, cyano or epoxy are the best choices for bonding resin to itself and other materials. Use epoxy when you need some working time, as with fuselage halves and wing roots, and cyano when you want an instant bond. Although resin warmed under hot running water can be coaxed to remove warps, cold resin will crack readily. Fortunately, cyano bonds broken resin very well, and even apparent major disasters can quickly be repaired and sanded out.

Because of its frangibility and the chance of finding gas bubbles beneath the surface, scribing resin or separating control surfaces like elevators or flaps can be tricky. With care, though, virtually any modeling operation you can perform on plastic can be accomplished with resin. There are times when the ease of drilling, sawing, and sanding resin will give you an advantage over harder molded plastic. Joining plastic and resin using cyano is also simple and results in a strong bond; when sanded properly a resin-to-plastic joint can easily be rendered invisible. Similarly, epoxy fillers and auto body putties can be used on resin with excellent results. Since plastic solvents will not affect polyurethane, body putty thinned with liquid plastic cement makes a superb filler for resin. It can be brushed on, will fill up the pinholes sometimes seen on resin surfaces, dries quickly, and sands more readily than the polyurethane base material.

Some concern has been voiced about the permanence of resin components. I have a couple of resin kits that have been on my shelves for quite a few years. One, a heavy, solid kit, still stands with its frail resin undercarriage legs unbowed. The other does show signs of sagging in its long thin wing; securing the rigging would probably have prevented this problem. My water-based acrylic paints adhered quite successfully to the resin, with no long-term evidence of flaking or chipping.

Czech resin kits and their descendents and competitors offer you many opportunities to add beautiful models of obscure, interesting, and overlooked aircraft to your collection. If you haven't taken the plunge yet make sure you give a resin kit a try soon, especially if you've been avoiding them. I guarantee you won't be disappointed!

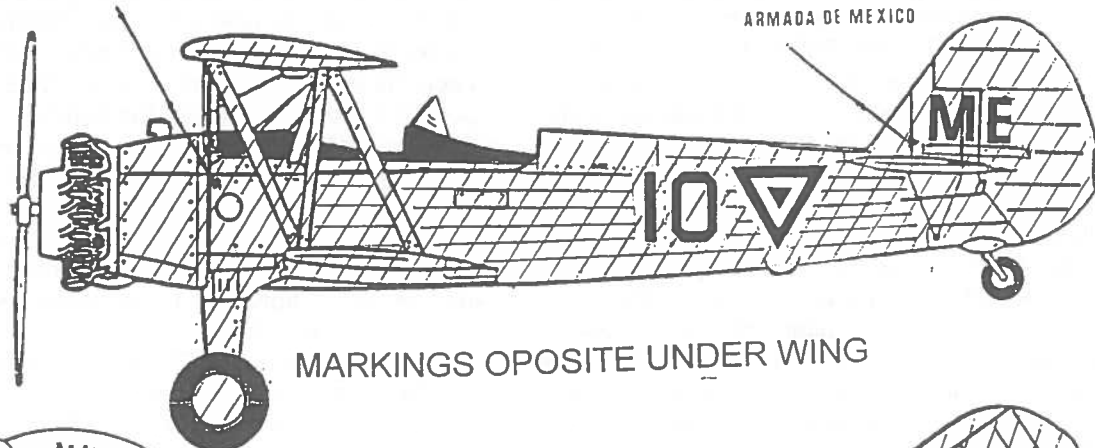
Bill Devins (SAFCH #557), IPMS/USA Seaplane SIG, 358 Arbor Road, Lancaster PA 17601-3204, USA.

# Stearman PT-17

## ARMADA DE MEXICO

Squadron Emblem

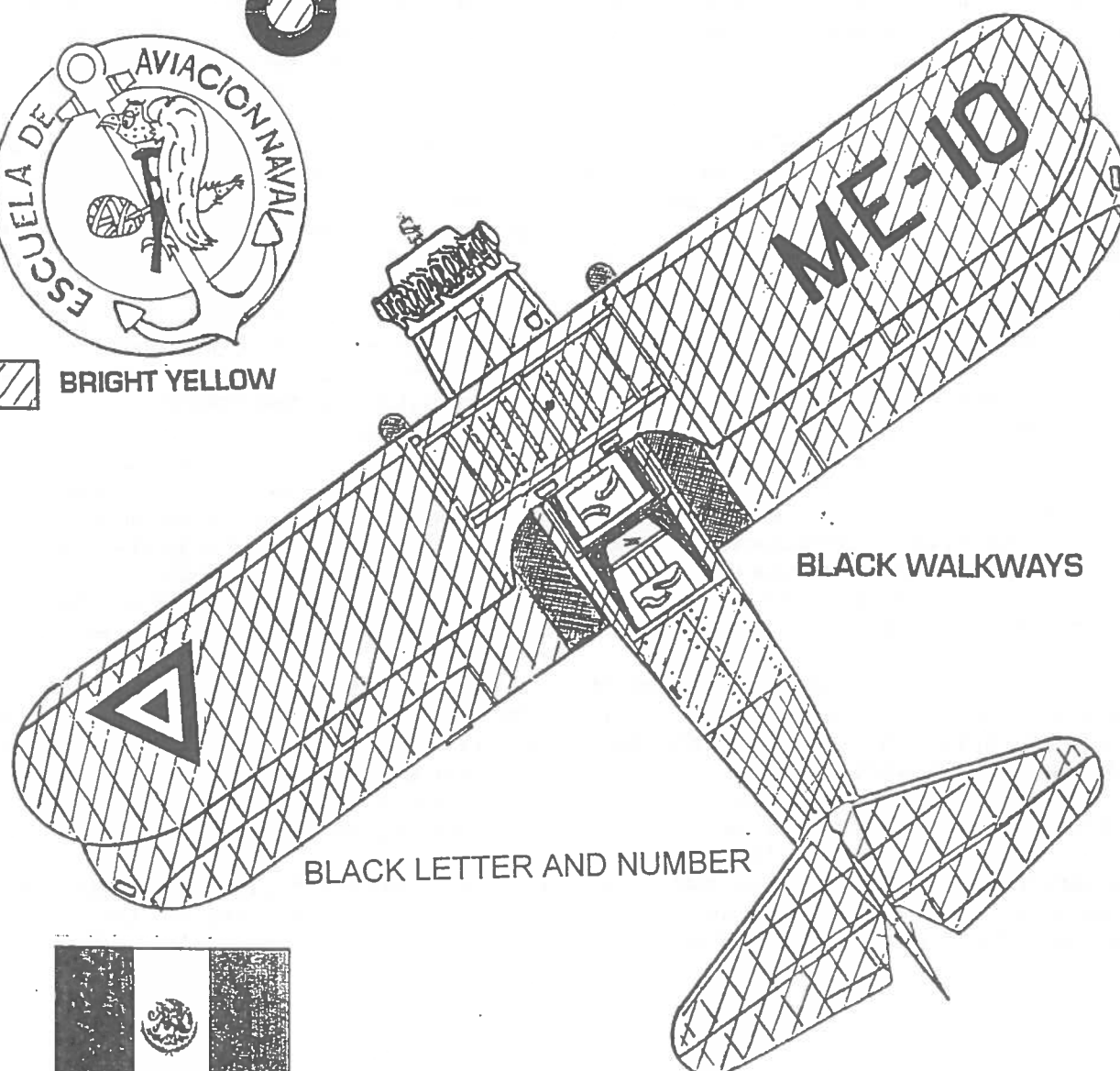
ARMADA DE MEXICO



MARKINGS OPOSITE UNDER WING



BRIGHT YELLOW



BLACK WALKWAYS

BLACK LETTER AND NUMBER



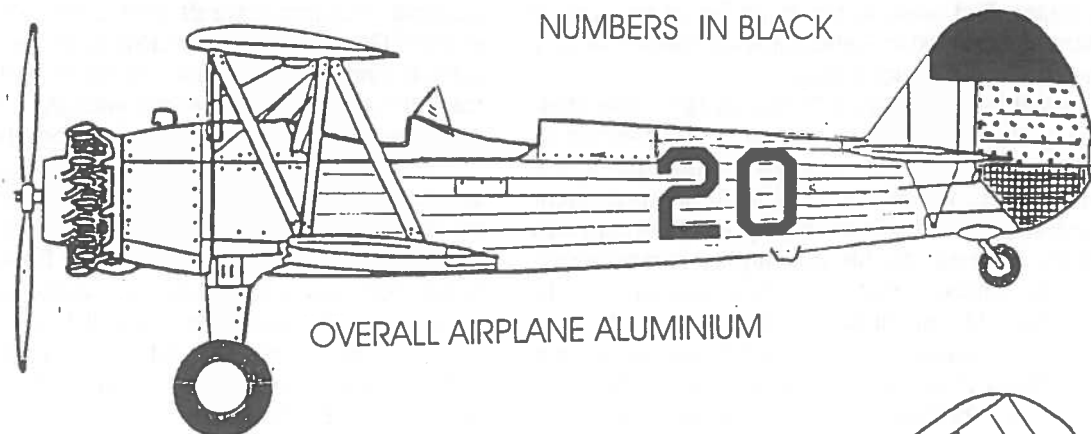
MEXICO

CAP JORGE DELGADO P.  
(SAFCH # 862)

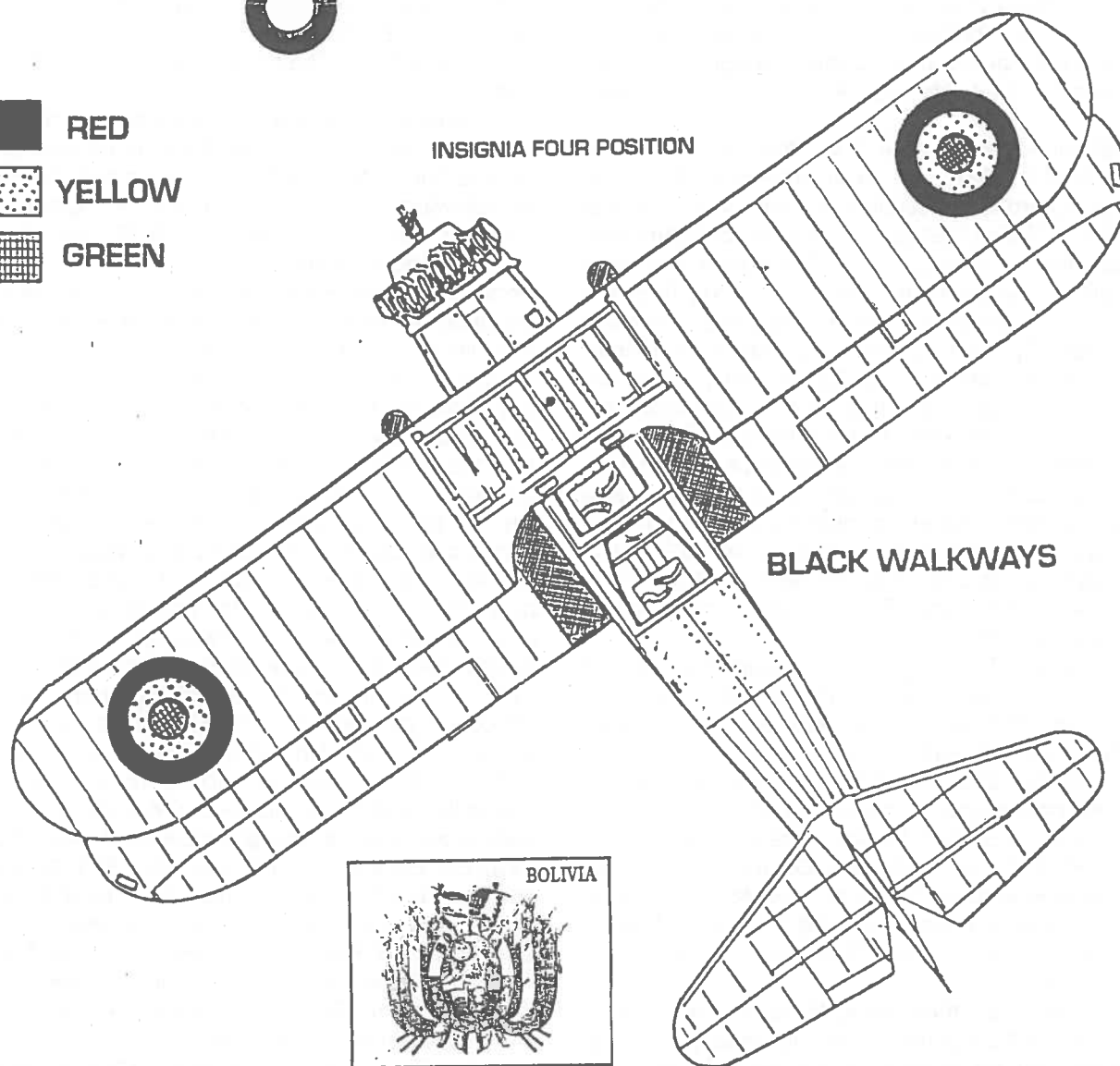
# Stearman PT-17

**FUERZA AEREA BOLIVIANA**

NATIONAL FLAG  
ON THE RUDDER



INSIGNIA FOUR POSITION



CAP JORGE DELGADO P.  
(SAFCH # 862)

# Carlos Castejon - Soviet Volunteer in the Spanish Civil War.

Igor Gordelianov and Mikhail Zhirokhov

with editorial assistance by Richard Karbowski

Civil War in Spain 1936-1939 indelibly affected the fates of a whole generation of Soviet fliers. They wrote very remarkable pages in the history of the air war over the Pyrenees, one of them particular. Not least in the aces list of this war is Mikhail Nesterovich Yakushin - who achieved the first victory at night in the history of Soviet aviation.

Mikhail Yakushin was born on 20 March 1910 near Moscow. Like many Soviet youths at that time, he decided to become a military flier. After graduating from the military pilot training school, he was assigned to the 70th Separate Detachment based in Baku. There he flew Polikarpov I-16 fighters with M-22 and M-25 engines. As his colleagues remembered, Yakushin was by nature a restrained man accustomed to expressing his thoughts succinctly and clearly.

In spring of 1937, the second volunteer group sent to the war in Spain left Baku. Besides Yakushin, the group consisted of I. Eremenko, L. Rybkin, I. Trofimov, M. Petrov, S. Shelyganov and I. Karpov; they traveled through France with Dutch passports - they didn't speak either foreign language fluently!

Not without adventures the Soviet fliers arrived at their destination in May 1937. Like all volunteers in the group, Mikhail was accorded a pseudonym under which he was known in Spain, Carlos Castejon. (Some sources often state another pseudonym, Rodrigo Mateo. The point is that pseudonyms are a complication lasting for a long time and especially when materials about actions of Soviet volunteers are researched. Spanish advisers and Yakushin's friends, including Spaniards, called him as Carlos Castejon and they remembered it. Rodrigo Mateo was a Serov's pseudonym).

After arrival, an escuadrilla of I-16 fighters, designated 1/21, was organized under the command of I. Eremenko. Primary this unit performed desensive duties over Cartagena and Alicante covering ship and transports from insurgent air raids. During a period of forced inaction in June 1937, half of the group was sent to Los Alcazares airfield, where it was re-equipped with I-15 biplanes. The escuadrilla was accorded a new appellation - 1/26.

The escuadrilla had ready become operational two days after the Brunete campaign began and where aviation played considerable role. The insurgents increased their presence in the air battles by using German and Italian units armed with the newest aircraft. But, Soviet fliers gained considerable success there, claiming numerous enemy aircraft shot down. On 1 July, Yakushin opened his score there by claiming an Italian Fiat CR.32 fighter destroyed. On that day, the escuadrilla was ordered to conduct a recon flight over all of the enemy highway roads coming to Madrid from the west. In the morning, they started the planned flights, however, no results were gained at first.

A day was tending to the evening, the command resolved to conduct the last flight of the day by the whole escuadrilla. Twelve aircraft took off along a road to Avila. Some 30-40 kilometers from the front line, over the region of Toledo, they met an equal number of CR.32s and the battle was on!

Here is a description by Yakushin himself: "I cannot

describe the battle in full as this is impossible. 24 aircraft fought over the small space in the sky. All around, grey biplanes with black crosses and green ones with Republican insignia. Burning aircraft and parachutes appeared, but whose? Gradually, ours became all more numerous and only our I-15s remained in the air by the end of this battle. One of them reformed the escuadrilla with signals; this was aircraft of Captain Eremenko which came from the east ...."

In all, the escuadrilla obtained six victories without losses, but none of the Soviet pilots could put a claim for two of the shot-down Fiats because of the confusion of the dogfight. (Shingarev writes that Commissar of Soviet volunteer pilots, Felipe Agal'tsov, visited them on the afternoon of 30 June (his pseudonym in Spain was Colonel Martin). Shingarev mentions the date of that combat as 1 July 1937, and that it was their first combat over Toledo - they were attacked by a group of Fiat CR.32s. Together, Eremenko and Kuznetsov shot down three Fiats. They saw Yakushin shot down another Fiat.)

The basic task of the escuadrilla task at this stage of the operations was capital cover for which they were based at Campo Soto airfield. With that assignment, Yakushin gained the following victories: on 6 July 1937 he, together with Serov, knocked down an Italian Fiat CR.32 over the region of Brunete. And after the following two-day operation Soviet fliers counted two enemy aircraft shot down. Singarev gives the detailing description of air battle that took place on the next day (7 July 1937) when Yakushin gained his next victory. In early morning, Yeryomenko was ordered to fly towards the city of Madrid to unite with Lakeyev's escuadrilla in the air. The escuadrilla of Aleksandr Minayev, meanwhile, was flying over the front line. The antiaircraft defence opened fire upon the Republican fighters over the Delicias railroad station. Fiat CR.32s appeared from Princess Bridge side. Dog-fights began over Delicias railroad station, Andalusia Bridge, and Tobacco Manufacture. A group of Ju-52s and Do-17s appeared from the western side. Minayev's escuadrilla flew to intercept the bombers, but Fiats attacked the I-15s and dispersed them. Jose Redondo, the Spanish pilot of one of the I-15s, was wounded; Rybkin shielded him, but both were forced to fight nine Fiats. One Fiat collided with another and was set on fire. Rybkin and Redondo joined with Petrov and Karpov who had flown to help. At that moment, Yakushin, Eremenko, and Serov attacked the leading group of Fiats from above. One Fiat was shot down and the pilot bailed out. Pilots of I-15s and I-16s had seen four Bf-109s, but they did not attack the Republican fighter. The I-15 of Austrian Walter Korrows was attacked by Fiat and was shot down; immediately the I-15 of Yakushin attacked this Fiat and destroyed it in the air. Commenting on this battle, the Spanish Civil War researcher Victor Turon from Barcelona, states that the Fiat unit involved in this combat was the Italian 23 Gruppo, led by Maggiore Zotti; they claimed three I-15s and three I-16s for the loss of two Fiats: Gino Passeri (killed) and Alfonso Mattei (parachuted safely).

Activity of the Republican aviation forced the insurgents

to switch to night actions. With basic tactics, they began bombing Republican airfields and positions by single-seat aircraft. Nothing was done in response to these raids except for passive-defence measures such as masking and darkening. Even the suggestion of Soviet fliers to use their fighters at night was not supported at first. Only after a conference in the superior General Staff did Spanish Colonel Vincente Rojo allow night actions to be permitted. It had to be turned and, at last, it was! A patrol flight of night fighters led by Victor Kuznetsov (pilots Yakushin, Serov, Rybkin, and Sorokin) had been formed by Eremenko's escuadrilla at Alcala de Henares aerodrome by the beginning of the Brunete operation.

The aerodrome was bombed by one Ju-52 on the night of 14 July 1937. Serov's fighter was damaged while making its landing, pilot slightly wounded in the head. On 15 July, one Ju-52 again bombed the aerodrome; Rybkin tried to takeoff and intercept it, but could not start the engine. No airplanes were damaged.

On the night of 18 July, an I-15 (pilot Yakushin) met a Ju-52 bomber and tried to intercept it. The Ju-52 opened fire and slightly damaged the I-15, which landed successfully.

On the morning of 18 July, Kuznetsov and Sorokin left for the USSR.

Night operations were not easy because airfields did not have the necessary infrastructure such as beacons, searchlights, etc. They set up some car headlights and lit bonfires along the runway, which the ground personnel covered over at the first sign of the enemy's presence. Training began at Alcala de Henares which was the most suitable airfield. Then, Yakushin became a night "Chato" flight leader. (Some sources mention Serov as a leader).

The experiment was put into practice on 25 June. Yakushin took off first to patrol at 3,000 meters altitude, followed by Serov at 2,600 m. Yakushin sighted an enemy three-engined aircraft heading for Madrid. Closing in from the east, he let go with his four machine guns almost at point blank range, about 40 meters, and exhausted his ammunition. Bullets hit the target, but the aircraft did not go down - it altered the course and speed off. Back on the ground, a disappointed Yakushin discussed the unsatisfactory result with Serov. They decided that if they were to set the Junkers alight they would have to concentrate their fire on the fuel tank located at the junction the right wing with the fuselage.

On the night of 25-26 July 1937, when enemy aircraft were reported bombing the Republican lines over the area around the Escorial, they headed for the front flying over it at night for the first time. Aided by the glow from the fires, they found the patrol zone. This time Yakushin was lucky and he soon spotted an enemy bomber. Turning through 180 degrees he closed in from the east at the same height towards the enemy's starboard. Closing in as near as he could, he opened fire and instantly flame appeared along the Junker's fuselage. (It was 1:42 a.m.) The enemy gunner tried to fight off the attack, but Yakushin continued firing, following the aircraft down until it hit the ground beside the El Escorial on the Robledo de Chavela highway. Four men from the Ju-52's crew were killed in the air, the fifth baled out and was taken captive. The crew (all from 3.K/88 and flying Ju-52 22+76) were: Lieutenant Leo Falk, Fieldwebel George Ubelhack, Unteroffizier Friz Berndt, Unteroffizier Walter Brötzmann and navigator Unteroffizier Heinz Böttcher who was captured.

Smirnov also states the date of that action as 27 July; perhaps the flight began before midnight. Shingarev fixes the date before the midnight. This confusion often appears with dates of night flights, the calendar date being reported inconsistently. This was the first Republican night victory during the Spanish civil war.

Next night, Serov destroyed a Ju-52 from I.K/88, with one killed (August Heyer) and four captured (Johannes Remling, Rolf Pirner, Walter Schellhorn and Bruno Thielebein).

In regards to the shooting down of two German bombers by Yakushin and Serov, a recent book published by Patrick Laureau and Juan Arráez Cerdá has some new information. They had access to lists of German crewmen sent to Spain in 1936-1939 and they confirmed that two bombers were destroyed: there was one survivor from the first and four survivors from the second, giving a total of 5 killed and 5 captured. This confused the historians for many years because the German lists published previously contained just the names of the killed, and many authors believed only one German bomber had been shot down. It is now clear that Yakushin and Serov accounted for two Ju-52s in two consecutive nights and almost over the same area.

On the early morning of 27 July, Ptukhin and ground crew found the wreckage of the Ju-52 shot down by Yakushin. They took maps and flight logs from the dead pilots; it was ascertained that the Ju-52 had been part of a bomber squadron based on Avila aerodrome and had the "Black Dragon" emblem on fuselage and fin. For these night patrol flights, the Republican government awarded Mikhail Yakushin and Anatoly Serov golden watches and personal cars, they also were awarded the Red Banner order by the Soviet government.

These first victories elevated spirit of all of the fliers. Not only on the Central front. Other areas began being organized groups of I-15 night fighters. Business went on.

On 14 September, over the region of Sariñena, Ivan Eremenko was flying I-16 when he shot down a Ju-52 bomber from 2.G/22. This Ju-52 was coded 22+61 with a Spanish crew consisting of Jose Muntadas Prim (some sources say Captain Carlos Muntadas Salvado-Prim), Carazo Calleja, engineer Sergeant Romero, radio operator Corporal Apricio Velasco, and gunner José Ramón Blasco Lavín. The 2nd pilot was a Russian, Lieutenant Vsevolod Marchenko. Only Blasco survived to reach his lines after bailing out; Marchenko also parachuted safely, but was executed by Republicans. It was a unique occasion; thousands of kilometers from their mother country a Russian had shot down another Russian!

[V. Marchenko was a Ukrainian who graduated from the Russian Naval College in 1911 and during the First World War he transferred to aviation. During the Russian Civil War he served with the White Russian Army of Admiral Kolchak and was awarded the St. George Cross. He left Russia after the October Revolution in 1917, going first to Yugoslavia and then joining the Spanish Legion serving in Los Alcazares as a Captain. He became a pilot with the Madrid-Paris airline, and then during the Spanish Civil War he was a pilot on Ju-52 bombers for Nationalist forces. (Source: A.P. Yaremchuck, Russian volunteers in Spain (Nationalist Army), Globus Publ., San Francisco (USA) 1983; E.A. Agius: Los Chatos en Espana, part 3, Aeroplano, no. 9.)]

Sometime later, Sobolev gained another night victory



over the front area. After those actions over Sariñena, the insurgents did not make any more night raids for two months.

In the region of Barcelona, Eugene Stepanov and Ilya Finn increased counting of night victories, for this flamed an Italian aircraft. In the region of Valencia, Spanish airmen also did well at night, so night bombardments rapidly ceased.

On 14 August, Mikhail Yakushin gained over a Ju-52. As it was again a transport aircraft, it seemed they might be easy opponents for fighters. However, in accordance with reports of Soviet fliers, this type of bomber possessed excellent speed, strong airframes, and motors covered by 5-mm of steel plate on the cowlings. Besides, it was impossible to pursue it for any prolonged time because of powerful defensive armament which included dangerous dorsal and two side machine gun positions. These large-calibre machine guns allowed the gunners to provide an effective zone of fire. However, after several ineffectual attacks against this type of bomber, Republican fliers learned to attack from the front and above. Such tactics could cause the petrol fumes in the carburetor to burst into flame almost immediately. In this type of attack against, defensive fire was limited to only one machine gun. This is how Yakushin gained his victory.

In all, in Spanish skies, from May to October 1937, Mikhail Yakushin had gained six aerial victories (five personally and one shared) thus becoming the ace.

All Russian pilots flying the I-15 were to serve only 6 months of combat in Spain. It was recognized that many fliers did not endure aerial battles for long. Mostly because of the psychological stress of combat, especially after the appearance of the Bf-109 German fighter. Very frequently they fell seriously ill after having been exposed to nervous shock, hemorrhage of the brain, and physical exhaustion from overwork. Many of them couldn't endure the climate: they did not eat, only drinking table water because of the constant heat. Weariness was often reflected on eyes.

Yakushin returned to Russia from his "official business trip, in October 1937 and went on to service in the Soviet Air Force. As with other participants of that war, their experience was used to prepare the Soviet Air Force for the inevitable future war with Germany. They also participated an aerobatic unit with I-16s formed under the command of Yakushin's friend A. Serov to take part in many exhibitions including parades on the Red Square. Later in 1938, Eugene Yakushin was promoted to Chief of the Air Inspectorate of the Soviet Union. A. Sidorenko was appointed as flight commander to replace him.

On 22 June 1941, Mikhail Yakushin, being a member of the inspection group of the General Staff, arrived by air at one of the airfields of the 11th Mixed Aircraft Division in the region of Stariy Dvor. On hearing of the attack on the USSR by German troops, Yakushin ordered to the Regiment Commander to shift a half of his aircraft to a reserve air field in the region of Lidda. His school-mate from flight school, 9th Mixed Aircraft Division Commander Brigade-General Sergey Chernikh (also a participant of the war in Spain) had little time - almost all of his aircraft were annihilated on the ground. (Hero of the Soviet Union S. Chernikh was executed on 27 July together with a group of other commanders blamed for the failures in the early period of the war).

Even then, when many of Soviet aircraft had already been burnt on the airfields, some commanders still did nothing

because of the threat of severe penalties for any provocations against the Germans. Any display of personal initiative by a commander or voluntarily-made orders were forbidden under threat of tribunal. These prohibitions also applied to Yakushin, who notwithstanding orders, risked his own life attempting to save aircraft.

In July 1941, Major Yakushin was appointed a superior of one of AF sectors of Moscow and later he became Deputy Commander of the 6th Fighter Aircraft Regiment. He finished the war as commander of the 215th Fighter Aircraft Division. This division was included in composition of the 8th Fighter Aircraft Regiment under the command of another hero of Spain, A.S. Osipenko. The fliers of the 215th FAD operated over East Prussia during 1944.

After the war, he served in responsible command posts. Mikhail Yakushin retired from Air Force with the rank of Major-General. He passed away on July 5, 1999.

M. Yakushin claimed five victories (and one shared) in Spain (date; type; result; locality):

30 June (or 1 July) 1937; CR.32; destroyed; Toledo.

6 July 1937; CR.32; destroyed; Brunete (shared with Serov).

7 July 1937; CR.32; destroyed; Brunete.

8 August 1937; CR.32; destroyed; Brunete.

25-26 July 1937; Ju-52/3m; destroyed Valdemorio and Colmenar area.

14 August 1937; Ju-52/3m; destroyed; unknown area.

The book by Shingarev (Reference 1) has a color drawing of the I-15 fighter flown by Mikhail Yakushin in July of 1937 while with the Republican Air Force. The upper surface is green (FS 595B 34227). There is the red stripe on the fuselage and the tricolor flag on the rudder. On the fin is a circle with an enclosed "8" both in white. The under surfaces of wings and fuselage are light blue (FS595B 35240 or 35250) (Kindly via M. Prutsakov. Painted by A.F. Ignaty).

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Special thanks to Mr. Victor Turon from Barcelona, Spain, who helped us very much. Without his help it would be impossible to ascertain many historical facts.

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87250, Ukraine.

Authors' note: We appeal to all SAFCH and non-SAFCH members who have interest in the Spanish Civil War. We would like to create a group on this subject with the possible intentions of conducting common research, writing articles, collecting material, modelling, etc. If anyone wants to contact us, please write on the addresses above. Thank you very much.

## Fairchild 24-C8CS de luxe

Bill Devins

[Kit: 1/72-scale resin-cast kit. US retail price is \$34 from Salon Modelarski Top Gun, Tomas Bilkiewicz, 81-385 Gdynia, ul Krasickiego 12/7, Poland.]

The Fairchild 24 is a classic pre-war cabin monoplane which is long overdue in kit form. Originally flown in 1931, over 20,000 F 24s were ultimately manufactured by the time production ceased in 1948. More than two-thirds of the F 24s had Warner radial power, but the Ranger in-line engine provided a sleeker option. The 1934 F 24-C8C model, powered by a 145-hp Warner Super Scarab radial, was the first major production variant. It had Frise ailerons and metal split flaps, and could carry a third passenger on a jump seat in the baggage compartment. Later modifications resulted in larger wing and tail surfaces, eliminated the stabilizer support struts, added a fourth passenger seat, and gradually increased the horsepower. The versatile F 24 was equally at home on wheels, floats, or skis.

When WW II came, the Fairchild 24, deemed too large for a liaison aircraft, was chosen by both the USAAC and the RAF as a utility transport. Production was stepped up, and existing civilian machines were impressed into military service. In the USAAC the Fairchild 24 was known as the Forwarder, and most often carried the UC-61 designation, although some impressed examples were apparently designated UC-86. The USN, which had had four Ranger-powered F 24-C8Fs built as J2Ks in 1936, impressed another 11 civilian aircraft under the designation GK-1. Some were also used by the USMC. In Great Britain the Fairchild was known as the Argus. Over 810 went to the RAF, with some of these finding their way to the RAAF and RCAF. In Finland and Sweden, single civilian examples were "borrowed" by the military.

This is where Top Gun Models comes in. Top Gun is a Polish operation with Swedish connections and interests, like Marivox. Tomasz Bilkiewicz is the designer/producer behind the burgeoning Top Gun series; the Fairchild 24 is his seventeenth release! Known as the Tp 6 in Flygvapnet service, the F 24 would seem to have limited interest for the modeler of Swedish types. The sole Tp 6 was leased from a private owner in 1940, when the German invasion of Scandinavia caused a run on transport aircraft in Sweden. It crash-landed after its delivery flight to F 2 at Hägenäs on 20 May 1940. Subsequently repaired, it was used from 11 October 1940 as a communications machine. A year after it was "rented", the F 24 was returned to its private owner. In Flygvapnet service the former SE-AIR flew exclusively as a floatplane. The ID codes 296 and the Swedish triple crown national insignia were applied directly over the black and silver civilian color

scheme.

The Top Gun Fairchild 24-C8CS de luxe is completely molded in resin, with the exception of the clear parts. Surface detail is very petite and accurate. Trailing edges, including those of the small cowl with its well-defined rocker fairings, are very fine. I was worried about the lingering "moth ball" odor noticeable when first opening the kit, but "airing out" the parts seems to cut it back. My fear was that the resin was insufficiently cured and would be unstable, but this does not seem to be the case. ALL the parts are resin castings, and some are better replaced. There is no point, for instance, in cleaning up the tiny control columns, pitot, and some of the struts, even if you can find them! The float "N"-struts must be assembled from four cast "V"-shaped units which have to be butt-joined together in pairs. This may not be worth the effort. These and most of the other smaller struts could be replaced by fine plastic strut stock or Skybird 86's brass "Strutz" for easier assembly.

There is no surface detail on the inner fuselage side walls, but the four-seat interior is rather complete. It is apparently Top Gun tradition to provide two vac-formed clear canopies, and the F 24 is no exception. The cockpit framing is molded into the resin fuselage halves, and the clear parts are devoid of framing markings. This is because two methods are offered for attaching the clear parts. The first is to cut out the entire window area from the clear part and fix it to the fuselage after removing the resin cockpit framing. The second is to cut out each window individually and fit it into the appropriate opening. You can simplify this process by affixing a strip of transparent tape across the outside of the window openings before painting your interior color. Remove the tape and attach it to the clear section, using the painted guides as a pattern to cut out the correctly-shaped windows. [I learned this trick from my old friend Bob Wheeler of VLE Models -WCD] I would put the side windows in separately, before cementing the fuselage halves together (second method), but I think the windscreen will go in more readily in one piece. Although the Swedish machine had a solid roof, the military Argus and Forwarder sometimes had clear roof sections. The Top Gun parts make it easy to add these windows if necessary.

Spatted wheels and their streamlined struts are provided for those not wishing to use the float gear [at least send me the unwanted floats! -WCD]; separate float rudders and ventral fin are provided for the seaplane version. Later Fairchilds had a different fin/rudder shape and smooth NACA cowl rings, but conversion to one of these models won't

present any real problems. Even in-line Ranger-engined types, often seen on floats, could be converted from the kit without too much sweat, although Top Gun will probably release this variant in the near future.

In 1/72 scale the F 24 is rather small, with a six-inch span and a length over the floats of just under five inches. Top Gun has done a nice job with their presentation. The instruction sheet is well drawn and clear, once you figure out that two-piece float "N"-strut thing. A small decal sheet includes all the Flygvapnet markings. The kit comes shrink-wrapped in a small flip-open cardboard box, with a photocopied black and

white label on top. All the parts are enclosed in a zip-lock bag. There are a few more floatplanes in the Top Gun series, including the He 114 and a radial-engined Hawker Osprey. A Waco UIC biplane is promised for future release. The Fairchild 24 model should be welcomed by more than just Swedish aviation enthusiasts. Many thanks to Ted Burnett, leader of the IPMS/UK Swedish Air Force SIG, who obtained this kit and generously provided it to me for review.

Bill Devins (SAFCH #557), IPMS/USA Seaplane SIG, 358 Arbor Rd., Lancaster, PA, 17601-3204, USA.

#### FAIRCHILD F 24-C8C SPECIFICATIONS

<b>Engine:</b>	Werner Super Scarab 145-hp 7-cyl air-cooled radial		
<b>Span:</b>	35 ft 5 in	<b>Wing Area:</b>	170 ft²
<b>Length (fus):</b>	23 ft 2 in	<b>Height:</b>	13 ft 0 in
<b>Maximum Speed:</b>	105 mph	<b>Cruising Speed:</b>	90 mph

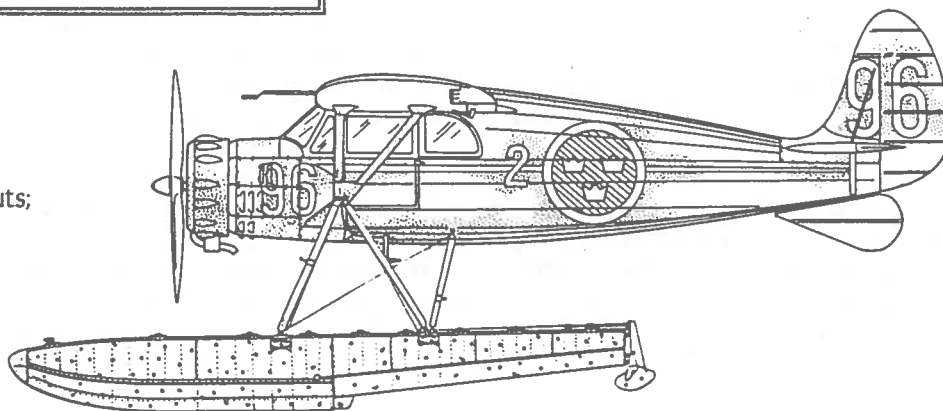
## FAIRCHILD MODEL 24 FLOATPLANE

### Fairchild 24-C8CS

#### Flygvapnet F 2

#### Hägenäs 1940

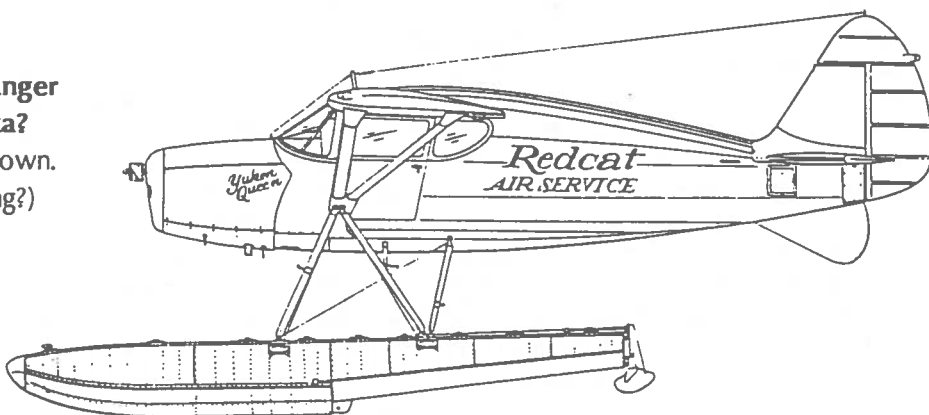
Black fuselage and wing struts;  
silver flying surfaces, floats  
and trim; white numbers;  
blue/yellow insignia.



### Fairchild 24-K 165-hp Ranger

#### Redcat Air Service Alaska?

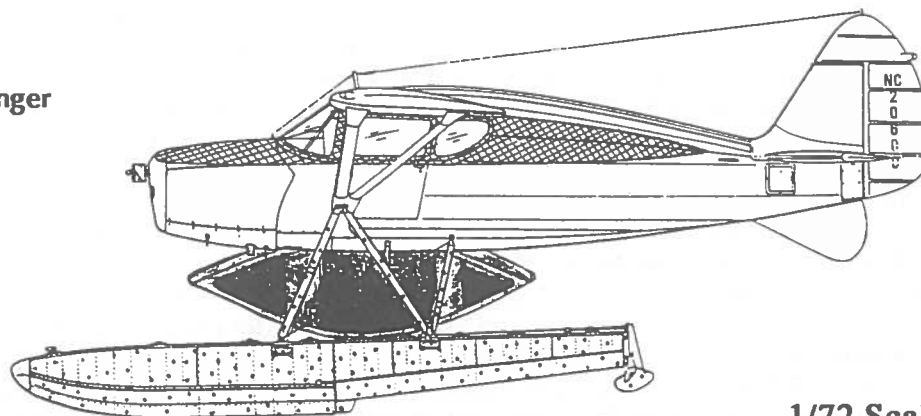
Registration and colors unknown.  
(Red overall w/black lettering?)  
Note the new empennage  
and modified cabin  
on this version.



### Fairchild 24-K 165-hp Ranger

#### NC206?? 1947

Factory color scheme by  
noted industrial designer  
Raymond Loewy is overall  
yellow with green trim.  
A canoe is lashed to  
the float struts.



1/72 Scale

## Swedish Heinkel HD 24 (Sk4)

Christian Hotte

Following the draconian restrictions imposed by the Treaty of Versailles on the German aircraft industry, several talented engineers under the Republic of Weimar had to take the way of the exile in order to continue their activities. Dornier settled in Switzerland, Rohrbach and Caspar in Denmark, and Ernst Heinkel settled in Sweden where he was to provide to the Swedish air Force (Flygvapnet) - via the Svenska AB Company - several types of military aircraft in the Twenties, one of which was the seaplane Heinkel HD-24. (Bill Devins' fine article in SAFO #85 treated other Swedish-built Heinkel Types: the Heinkel HE 1 through HE 5)

In 1926, a Seaplane Competition was held by Flygvapnet for a seaplane trainer and Heinkel answered by delivering two examples of the Heinkel HD-24 biplane floatplanes. This two-seat aircraft must be powered by a 230-hp BMW IV engine, but the Flygvapnet preferred to fit a 180-hp Mercedes D IIIau already available in Swedish stocks. Although the Heinkel design won only third place in the contest, a contract for production of another four examples through Svenska Aero was signed in October 1926. Another three-example order (reduced to two) was carried out by the Swedish

company in November 1926: these last ones were powered by 280-hp Junkers L5s.

In Flygvapnet service the HD 24 was known as Sk 4 or Sk 4A with the Junkers engine. The eight machines were used by F2 to train seaplane pilots at Hågernas, Karlskrona, and Gothenburg naval air stations. These heavy machines appeared to be underpowered with the Mercedes engines and at the beginning of the 1930s Junkers L5 and Armstrong Siddeley (AS) replaced the old powerplant units. Nevertheless, these sturdy machines went on to serve until the end of the decade; the last one being written off in September 1939.

Type: Training seaplane; Wingspan: 14.20 m; Length: 9.70 m; Height: 4.12 m; Wing area: 50.10 m<sup>2</sup> Empty weight: 1400 kg; Loaded weight: 2150 kg; Maximum speed at sea level: 168 km/h Climbing rate at 1000 m: 4'36"; Service ceiling: 4000 m; Range: 600km

Sources: *Heinkels for Sweden*, by Lennart Andersson in *Air Enthusiast* #78.

Christian Hotte (SAFCH #902), 6 Impasse Santos-Dumont, 44470 Carquefou, France.

## Dominican Republic Update

[Author's note: The following information came to light since the publication of my article in SAFO #95 and I would like to share these with other SAFO readers and people who have a special interest to this small air force with an interesting history.]

The FAD saw a dramatic year after my last visit to San Isidro AB in April 2000. The main combat unit, the Escuadrón de Combate nicknamed "Dragones" withdraw their last remaining A-37B Dragonfly from service, leaving the FAD without a combat-capable aircraft the first time in 50 years! On July 13 2000, one of the A-37B, serialised 3704, caught fire after a engine blow-up just before take-off and it was totally destroyed, although the crew escaped unharmed. With only two Dragonfly's left (serials 3701 and 3702), their days were numbered and, in the month of February 2001, the type was finally withdrawn from use.

Much has been rumored about the replacement of this aircraft, and according to well informed sources the Air Force opted for the EMBRAER Super Tucano, although the order seems not to have been finalized at the time of this writing (11 January 2002)! There are even reports that the whole order for ten aircraft, including training, logistic and spares has been cancelled for economic reasons! However, on the other side, the FAD received it's third and last CASA 212-400 serialised 3502 with c/n 470 and named "Mella". It arrived on January 26 2001 after a flight from Sevilla through Africa, Brazil, Venezuela, and finally San Isidro.

As reported in the article in SAFO vol.24 no.3 (95) October 2000, the FAD sold its whole fleet of Bell 205A-1 helicopters to the Bell company located in Calgary, Canada. They are as follows; 3018 (c/n 30235) as HI-726SP, 3019 (c/n 30252) as HI-733SP, 3023 (c/n 30105) as HI-728SP, 3024 (c/n 30106) as HI-730SP, 3025 (c/n 30181) as HI-727SP, 3026 (c/n

30182) as HI-731SP, 3027 (c/n 30296) as HI-732SP, and finally 3028 (c/n 30117) as HI-729SP. Most of these were noted at the Bell facility at Calgary in November 2000 in complete FAD colours.

Another type that was withdrawn and saw sale to US civil market where several T-34B Mentors, at least four of them sold to a company in Florida, USA, and two confirmed are 1601 as N687HV and 1607 as N802HV, both cancelled. in FAD service August 2, 2001. The Mentor is replaced by the Chilean ENAER Pillans. A correction to the article is the exact type of Dauphin used as Presidential transport, serialised 3029; this is a AS.365N and not a AS.365C as stated. Plans exist to upgrade the six UH-1H's to Huey II standard with US funding, and the FAD is close to sign a deal to acquire at least three Bell 212's on the second-hand market.

The most interesting happening was the re-activation of the Dominican Army Air Corps, the Ejército Nacional that saw the delivery of three Robinson R-22 helicopters serialised EN-1845 to EN-1847 and one R-44 Raven with serial EN-1844, all arrived in the Dominican Republic in March 2001. "EN" stands for Ejército Nacional, the four digit serials are their construction number. Finally, there is a requirement for four light communication aircraft, for which the FAD looked to the Cessna 206H; an order is expected soon. In the close future I will spend a article on the FAD A-37B from the early days thru its end!

Let's all hope that the FAD will continue to fly the combat element with it's aircraft painted with large shark-mouths. Remember the time that the FAD Mustangs flew over this beautiful Caribbean nation.

Henrico Angerman (SAFCH #1561), Plesmanstraat 385, 3769 HL, Soesterberg. E-mail: ricoa24@wanadoo.nl

**Aeg, Mehad, Lennukid** (Time, Men, Aircraft), F. Gerdessen, T. Kitvel, J. Tilk. 9 1/2 inch by 7 inch. 408 pages. Eesti Entsüklopeediakirjastus, Tallinn (2001). ISBN 9985-70-086-4.

The story of development of Estonian aviation until 1940. I have been party to the preparation of this title over several years and can vouch for the integrity of the text, compiled from a multitude of sources and from official archives. The original concept was for a dual Estonian/English text, however, of this 408 page volume the publishers hand has reduced the English text to only eight pages in the form of a summary. Photo captions are in dual language but of the over 140 illustrations only 60 depict aircraft. There are 19 informative appendices in both languages and two colour plates depicting uniforms and aircrew badges. One is a complete list of aircraft operated based on official records. In a couple of cases this is at variance with my own research which is based on photographic evidence. Whilst this book is a milestone on the subject matter, it is not a photo album of Estonian aircraft and the Estonian text will limit its appeal to all but the most serious students not conversant with the language.

Available from Eesti Entsüklopeediakirjastus, Mustamäe tee 5, EE-10616 Tallinn, Estonia. Robert J. Ruffle, [Group Leaders, Russian Aviation Research Group, Air-Britain (Historians) Ltd.] P.O. Box 430, Shoreham-by-Sea, West Sussex, BN43 5EB, England.

**Fighter Pilots of the Spanish Republic** (Vol. 1), by Rafael A. Permuy Lopez. #1 in a series "Historica 36/39". A-4 size, 80 pages, Softbound. 9,5 Euros. Quiron Ediciones, Carlos Fresno Crespo, Alcaniz Fresno's S.A., C/Cromo 18-20, Poligono Industrial San Cristobal, 47012 Valladolid, Spain. E-mail: quiron@alcanizfresnos.com.

If you're a student of the Spanish Civil War but you've been reluctant to purchase the volumes of the "Enciclopedia de la Aviacion Militar Espanola" (reviewed below) because of the language barrier, you are missing out on a magnificent collection of photographs and color side-view drawings. But, rejoice! The publisher of that series, Quiron Ediciones, has initiated a new series for those of us who are Spanish-language challenged. Their "Historica 36/39" series is being published with parallel Spanish and English text. The English text is not a summary but the complete text, tables, appendices, and captions in excellent English.

The first volume in this new series is also the first in a two-volume set on the activities of the fighter pilots of the Republic. The first part of the account is covered in an Introduction and five chapters. Introduction "Birth of the Spanish Fighter Force" 8 pages including 13 photos and 5 color side-view drawings [Martinsyde F-4A (2), Fokker D-X, Nieuport 29C.1, & Nieuport 52C.1]. Chapter I "The Fighter Force of the 2nd Republic" 13 page including 11 photos and 7 color side-view drawings [Nieuport 52C.1 (4), Hawker Spanish Fury, Martinsyde F.4A (2)]. Chapter II "The Military Uprising in the Fighter Units" 6 pages including 2 photos and a map showing the territory controlled by Republican and Nationalist forces early in the war with major cities and airfields identified (very useful in following the action described in the text). Chapter III "First Operations by Government Fighters" 11 pages including 4 photos and one color side-view drawing [Nieuport 52C.1]. Chapter IV "Republican Fighters on the Southern, Aragon and Northern Fronts" 20 pages including 9 photos and

one color side-view drawing [Nieuport 52C.1]. Chapter V "The Imported Fighters and the Foreign Pilots" 13 pages including 4 photos and 4 color side-view drawings [Hawker Spanish Fury, Boeing 281, Dewoitine D.372C.1, & Loire 46C.1].

The appendices are: "Personnel in fighter units of the Aviation Militar on 19th July 1936"; "Report to General Mola by the infiltrated French pilot, Robert Brancart, on French aviation help to Republican Spain". "Military ranks of pilots and aircrew in the Aviacion Militar and RAF equivalents"; and "Contracts established with the government of the Spanish Republic and signed by French fighter pilots Jean Darry and Victor Veniel".

The text is very complete, describing every aerial combat and including official reports from both sides as well as newspaper accounts. The latter are particularly interesting because of their inaccuracies and blatant propaganda. One newspaper account I particularly liked was introduced by the author: "On 22 August, the government press reported a new air combat, which had taken place on the Aragon front on the previous day. The newspaper headlines, in that time's peculiar style - and showing absolute ignorance of aeronautical matters - reported the events this way, ...." "A Loyalist Light Plane Shoots Down Three Aircraft on the Aragon Front" Barcelona, 22 - A fighter light plane flown by loyal Herguido shot down three seditious bombers, escorted by a fighter light plane. The latter, unaware of Herguido's presence, fled, abandoning the three planes it was supposed to protect, which were shot down later." The author continues: "We have not found any official confirmation of this possible encounter on that date, neither in government nor in Nationalist sources." Another incident illustrates the hatred of the times. At the beginning of the war, a pilot with Republican sympathies found himself in a unit that had declared for the Nationalist. While on a flight in a Breguet XIX, he shot his Nationalist observer dead and landed his aircraft at a Republican-controlled airfield.

It should be obvious from the above that this is probably the most comprehensive account available in English of Republican fighter operations in the Spanish Civil War. For the small-air-force enthusiast, the most interesting chapters are the one on the history of Spanish fighter development prior to the SCW and the one on French airmen ferrying aircraft to Spain the early stages of the war.

The quality of the publication is first rate. The high-quality glossy paper allows for excellent reproduction of the many photos. The selection of the photos is a pleasant mix of aircraft on the ground and in the air, and of personnel in and around aircraft both posing for the photographer and at work. The quality of the color drawings is outstanding, and they are selected to show the evolution of markings in such detail as to tempt any modeler. (Let's see, how many Nieuport 622 kits do I have stashed in the loft? And, when is somebody going to release a kit of the Martinsyde Buzzard?) "Fighter Pilots of the Spanish Republic" is an outstanding publication that deserves to be on any list of the top aviation publication of 2001. With the Euro at US \$0.90 (as of 4 January 2002), the price of 9.5 Euro works out to a very reasonable US \$8.55. But, be sure to add a couple of dollars for postage. And, at the same time, you might as well order an issue or two of the "Enciclopedia" to see what you've been missing. The 2,97 euros converts to US \$2.68, a absolutely unbelievable low price. Both items are worth at least twice this estimate, so you

might want to contact them by e-mail to confirm costs and determine preferred method of payment. Review copy graciously provided by Carlos Fresno Crespo of Quiron Ediciones.

[Ed: The next titles in this bilingual series are: "Tupolev SB-2 'Katiushka' in Spain"; "The Battle of Jarama"; "The Legion Condor (Vol. I) 'Operation Magic Fire'"; and "Fighter Pilots of the Spanish Republic (Vol II)".]

**Enciclopedia de la Aviacion Militar Espanola**, 2,97 euros each. Quiron Ediciones, Carlos Fresno Crespo, Alcaniz Fresno's S.A., C/Cromo 18-20, Poligono Industrial San Cristobal, 47012 Valladolid, Spain. E-mail: quiron@alcanizfresnos.com.

#25 This issue continues the coverage of Spanish Army helicopters with 6 b&w and 17 color photos and 7 color side-view drawings [Bell 47, UH-1H (2), Alouette III, Bo-105, OH-58, and Super Puma]. Inserted color side-view pages are for a Fw 200 in post war roundels and a Ju 52 in SCW markings.

#26 The first part concludes the presentation of army helicopters with 9 color photos and 3 color side-view drawings [UH-1C, CH-47C, and UH-1H]. The second half concludes the study of Spanish helicopters with coverage of the Guardia Civil with one b&w and 3 color photos and 3 color side-view drawings [Bo-105 & BK-117 (2)]. Inserted color side-view pages are for a He 51 in Condor Legion markings and a Spanish Fw 190 in Eastern Front markings.

A two-page addenda to Volume II includes a photos of a Savoia S.13 and a photo and color side-view drawing of Macchi M.18.

#27 This issue begins with a discussion of "Denominacion e identificacion de los aviones militares espanoles (1911-36)" with two b&w photos and 16 color side-view drawings [Nieuport IV, Fokker C.III, Avro 504K, Fokker C.X, Bristol F.2B, Dornier Wal (2), Martinsyde Buzzard, DH 9, Loring R-III, Breguet XIX (3), Breguet XIV (3)]. This is followed by "La denominacion de los aviones de la aeronautica naval (1926-36)" with 3 b&w photos and 4 color side-view drawings [Martinsyde Buzzard (3) and Hispano E-30]. The last few pages begins a discussion of "La identificacion y designacion de aviones en la guerra civil espanola (1936-39)" with 3 b&w photos and 4 color side-view drawings [Dornier Wal, Vultee V.1A, & Douglas DC-2 (2)]. The inserted color side-view pages are for a Bf 109D and Hs 126 both in Condor Legion markings.

#28 The presentation of the markings of aircraft in the SCW continues with 14 b&w photos and 25 color side-view drawings [Dewoitine D.371, Bloch 210, Potez 540, DH.60 Moth Major (2), Dragon Rapide (2), & Puss Moth (2), I-16, I-15 (4), SB-2, Polikarpov R-5 & RZ, Northrop Gamma & Delta, Breguet XIX, SM.81, Lockheed Orion, Airspeed Envoy, Caudron Goeland, and Potez 58]. The inserted color side-view pages are for a He 111B in Condor Legion markings and a Casa C-127 (Do 27).

#29 Continuing the descriptions of markings, this issue includes 23 photos and 30 side-view drawings [Breguet XIX (2), He 51 (2), CR.32, SM.79, NiD-52, Fiat G.50, Fokker F-VIIb/3m (2), PWS 10, Ro 41, Bf 109, He 46, Ba.65, He 70, Ro.37, SM.81, Fiat BR.20, Ju 86, He 111, Do 17, RWD 13, KI 35, Stinson SR, Miles M-2, Ar 66, Ba.28, Bu 131, & Bu 133]. The inserted color side-view pages are for an Aerospatiale SA.330J Puma and a SA.332B Super-



puma.

#30 The presentation of markings used during the SCW concludes with nine photos and 12 color side-view drawings [Vultee V-1A, DeH-89, Fokker F-XII, Lockheed L-10 Electra, Douglas DC-2, Ar 95, He 60E, Wal, Bf 109B (2), SM.81, & He 70]. Beginning in this issue is the coverage of markings from the end of the Civil War up to the present when the black disc was quickly replaced by the red/yellow/red roundel. This issue includes 5 photos (including the elegant Huarte Mendicoa HM-3 twin float plane) and 18 color side-view drawings [He 70 (2), He 51, Hs 123, Grumman GE-23, DeH-82A Tiger Moth, DeH-60GIII Moth Major, Gil-Pazo GP-1, Hispano E-30, Hispano Suiza HS-42, Bf 109B, Hawker Fury, Bf 108, He 111 (2), Ju 52 52.3m (2), Casa 352]. The inserted color side-view pages are for the Boeing 281 (aka P-26) in its original blue and yellow color scheme and in the full Republican markings with large red stripes.

#31 The presentation of markings since the SCW continues with 7 b&w and 14 color photos and 14 color side-view drawings [Hispano Suiza HS-42D, F-86F, T-6D (2), T-33A, T-34A, Douglas C-54, Hispano Aviation HA-200 Saeta (5), Mirage IIIE, & Convair CV-440]. The inserted color side-view pages are for a Savoia S.64 and a Lockheed T-33A.

#32 The presentation of markings since the SCW concludes with 6 color photos and 11 color side-view drawings [CASA C-212 (4), CASA C-101 Aviojet, RF-4C, Mirage F-1 (2), F-5B, F-18 (2)]. Then this issues begins a series on "La Heraldica de la Aviacion Militar Espanola" with 12 photos and 29 color drawings of "wings" and 9 color drawings of individual emblems carried on Breguet XIV & XIX, DH-4, and Bristol F.2B (including one "pin up girl"). The inserted color side-view pages are for a Latecoere 28 and a North American T-6D Texan.

Review copies graciously provided by Carlos Fresno Crespo of Quiron Ediciones.

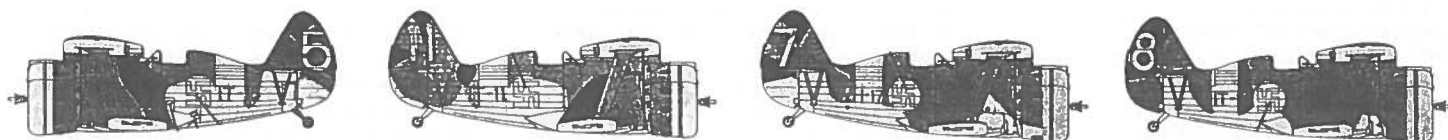
Le CG I/2 dan la campagne de France (2eme partie). #18 in the "Batailles Aeriennes" series. A-4 size, 80 pages. Softbound. 10,98 Euros. Lela Presse, 29 rue Paul Bert, 62230 Outreau, France. E-mail: lela.presse@wanadoo.fr.

This second, and final installment of the history of CG I/2 "Cigognes" during WWII picks up the story with the beginning of the Battle of France and carries it through to the reformation of the unit under Vichy management. The chapters illustrate the contents: (1) May 1940 (16 pages, 13 photos). (2) 1er-12 juin: a la poursuite des bombardiers (16 pages, 16 photos). (3) 12-21 juin: de la Lorraine a la Mediterranee (10 pages, 7 photos). (4) 22-14 juin: Nimes, dernieres missions (5 pages, 8 photos). (5) Disolution et resurrection des Cigognes (13 pages, 24 photos). Six pages of appendices cover: "Personnel du GC I/2 du 3 septembre 39 au 25 juin 40"; "Victoires et palmares du GC I/2"; "Liste des Morane-Saulnier 406 utilises par GC I/2 jusqu'au 25 juin 1940"; "Marques peintes sur les Morane du GC I/2"; and "Appellations et organisations".

As usual with the Batailles Aeriennes series, the photos are well reproduced and well chosen with a proper mix of French and German aircraft (both intact and destroyed) and personnel. The "Fiches monographiques" cover the Bf 110C and Hs 126 each with two pages including a 3-view scale drawing and a color side-view drawing. The 2-page "Uniformes et Tenues de Vol" section consists of color drawings of uniforms of 7 GC I/2 personnel (designated by name) and a color drawing of a refuelling truck. The, as usual, excellent color side-view drawings consist of seven MS 406 and one each of He 111 and Ju 88.

While this volume would seem to be of little use to the small-air-force enthusiast with little understanding of the French language, I did get useful information about Polish pilots in the Battle of France. From the appendices, I extracted the following information about the three Polish pilots who joined CG I/2 on 29 March 1940: Lt Brzezinski flew MS 406 #949, tail code 16 (there's a color side-view drawing of this a/c). He was hospitalized on 1 June 1940. S/L Chalupa picked up 3 victories (plus one probable) in France. The probable came on 11 May 1940 when he shared a Ju 88 with Sgt Beda. He was wounded on 17 May, but was back in combat on 21 May. On 8 June he shared a Bf 109 destroyed with two other pilots, on 8 June he shared a Ju 87 with two other pilots, and later the same day he was credited with a Ju 87 on his own. He departed France on 19 June with a total of 3 victories and one probable. Sgt Beda is credited with one victory and 2 probables in France. On 10 May, he shared a probable He 111 with another pilot. The next day he shared a probable with S/L Chalupa and on 5 June he shared in downing a Ju 88 with 3 other pilots. During this latter combat, the aircraft he was flying #949 (the same a/c illustrated in the color drawing) was damaged. On 11 June, he was wounded and he was evacuated from France on 19 June. The Germans would meet both Beda and Chalupa again in the skies over Great Britain, but that, as they say, is another story. Le GC I/2 is another fine volume in the Batailles Aeriennes series and can be highly recommended to anyone interested in air action during the Battle of France.

Review copy graciously provided by Michel Ledet of Lela Presse.



#### -magazines-magazines-magazines-magazines-magazines-magazines-magazines-magazines-magazines-

Gaceta de la Aviacion is the official publication of the Uruguayan Academy specializing in all aspects of Uruguayan aviation both civil and military. Issue #27, September 2001, is a special issue for me because it is the first published since my induction into the Academy and it includes my first article for them. The Academy appreciates my abstracts of Gaceta that have appeared in SAFO since they support the international diffusion of information. Articles of special interest to SAFCH members in the September 2001 issue include: (1) An article on the commemoration of the 75th anniversary of the first flight across the South Atlantic in 1926 by the Spanish Dornier Wal "Plus Ultra". A Spanish Ejercito del Aire Canadair CL-215T of 43 Group, code 43-21 (s/n 1116) baptized "Plus Ultra II", repeated the flight, arriving in Uruguay on 8 February 2001. (2) A nine-page biography of Frenchman Paul Castaibert who was a pioneer in aircraft construction in the River Plate region. His aircraft were successfully used by the Escuela Militar de Aviacion and two of his aircraft are now in the Museo Aeronautica. (3) A nine-page illustrated article on the visits to

Uruguay by the famous French pilot Jean Mermoz of the legendary "Aeropostale". The former Aeropostale airdrome established near Pando City, 20 miles from Montevideo, is now the site of the FAU's Flight School and the former French hangar is now serving as a gymnasium. The article includes photos of Late-26 F-AILZ and Conzinet 70 "Arc-en-Ciel" F-AMBV.

(4) A three-page, four-photo, article about the T-34A/B Mentors used by the Uruguayan Air Force from 1970 to 2000. Highly recommended for SAFO readers, it includes a table with serials and construction numbers. The FAU Mentors had previously served with the USN, USAF, Armada de Chile, and Ejercito del Aire. After FAU service three were transferred to the Uruguayan Naval Aviation (but, only one was used), eleven to the Bolivian AF, and two to the Argentine AF. (I would appreciate any information about the fate of these two Argentine Mentors.)

(5) A four-page article about the Uruguayan Anti-Plague Aerial Service from its beginnings in 1945 to 1992 when it was disbanded. Three photos of agricultural aircraft carrying Uruguayan civil codes

CX.

(6) The center page is a frameable painting by Carlos Mercador, the Academy's illustrator and a veteran pilot of F-51s and B-25s, showing a Uruguayan AF Breguet 14 and Nieuport 27.

(7) Lastly, my article about the F-80C FAU 218 now on display at the USAF Museum in Dayton, Ohio. For reasons unknown to me, "218" is painted in the colors of FAU 221 during the Korean conflict. If anyone knows why, I would be grateful to hear the explanation. Several years ago, Dan Hagedorn sent me a photo of 218 in Panama awaiting transport to the USA; with the s/n painted under the cockpit is correct for 218. Uruguayan SAFCH member Rolando Grasso tells me that FAU 213 F-80C in the Uruguayan Museum has the s/n officially listed for 214. He also knows about mixed links between s/n's FAU numbers with UH-1Bs. This makes things very embarrassing for anyone attempting to determine the true history of a particular aircraft. Eduardo Luzardo (SAFCH #1383), Picardia M.267 S.37. 90001 Barros Blancos, Uruguay.

**Max Decals**, 67 Skreen Rd., Dublin 7, Ireland.  
E-mail: maxdecals@oceanfree.net. Website:  
www.geocities.com/Maxdecal.

**DHC-3 Otter Selection** (Part 1 of the Antarctic Aviation Series). 1/72 scale. #7207. If you're tired of painting models in dull camouflage colors, but are not interested any of those froufrou commemorative color schemes, then Max Decals has just the thing for you. Working aircraft finished in colorful color schemes for service in the Antarctic snows. This first in a series of sheets provides decals for eight DHC Otters. (1) A Argentine Otter 'P-11' in overall bright red with large areas of dayglo orange from 1966. (2) A Belgian Otter 'OO-SUD' also in over bright red with large areas in white from 1960. (3) A float-equipped Norwegian Otter 'SE-O' in overall silver with dayglo orange trim circa 1968. (4) An overall bright red Otter 'VP-FAM' of the British Antarctic Survey 1968/69. (5) Another overall bright red British Antarctic Survey Otter '294' from 1959-64. (6) A VX-6 USN Otter 'JD' in overall silver with International Orange trim of Operation Deep Freeze 1956-66. (7) Another Belgian Otter 'OO-HAD' in silver and international orange. (8) RAF Otter 'XLS10' in overall orange for the British Commonwealth Trans Antarctic Expedition 1956-58.

The 14.5 cm by 20 cm decal sheet, printed by Tally Ho! in the Czech Republic, is on excellent quality with dense colors and perfect registration. National insignia, registrations, unit emblems, and lettering are provided to make all eight Otters. The instruction sheet provides drawings of all the aircraft with side- and top views showing the color scheme and placement of the decals.

An excellent decal sheet that is highly recommended to anyone seeking to add a little color to their collection of models.

P.S. Color drawings of the aircraft on this decals sheet can be seen at the Max Decals web site.

**DIHC-3 Otter Selection** (Part 1 of the Antarctic Aviation Series). 1/48-scale. 4807.

This 1/48-scale sheet is identical to the 1/72-scale sheet except that it includes only the first six schemes described above. Also recommended to modelers who prefer this larger scale.

Review decals kindly provided by Joe Maxwell of Max Decals.

**InScale 72 Productions**. Makelankatu 5B10, 00550

Helsinki, Finland. It's been a long time since SAFCH-member Pentti Manninen has released new decals in his InScale 72 line, so the following will be greatly appreciated by the modeler of Finnish aircraft.

These decals are of the usual InScale 72 style and quality. Each set consists of a 14 cm by 10 cm sheet of exquisitely-printed decals in perfect register with dense, accurate colors. Included are all the national, unit, & personal insignia, serial numbers, and tail numbers needed to finish models of the aircraft featured on the well-researched, beautifully-drawn instruction sheet that identifies the a/c by unit, airfield, date, and pilot.

Don't be fooled by the '72' in InScale 72's name; 1/48-scale decals are included in their catalog along with the 1/72-scale decals.

**AC 026 Polikarpov I-153 (1940-44)** (1/72 scale) The instruction sheet provides drawings (side and top views) for ten I-153s in Finnish markings: VH-101 (2) and VH-13 both the overall olive green over light grey; VH-12 (2), IT-16, IT-15, IT-18, IT-17, IT-11, and IT-20 all in black and olive green over light blue. National insignia include the dark blue swastika on both a white field and the toned-down version on a light blue field. (The numbers in parentheses denote that decals are provided for the same aircraft as seen at different times.)

**AC 027 Messerschmitt Bf 109 G-6, G-6, G-6 Jabo (1944-54)** (1/72). The instruction sheet provides drawings (side and top views) for eight Bf 109s: MT-437, MT-415, MT-425, MT-441, MT-453, MT-494 all with toned-down WWII national insignia; MT-501 and MT-466 with post-war Finnish roundels. All aircraft are in the usual German mottled camouflage except MT-466 which is in Finnish black and olive green over light blue grey. Full stencilling is provided along with a 3-view drawing showing the placement of the stencilling.

**AC 028 Messerschmitt Bf 109 G-6, G-6AS & G-8 (1/72)**. Decals and drawings are provided for eight Finnish 109s: MT-433, MT-483, MT-463, MT-504 (with post-war roundels), & MT-457 all in standard German day flight scheme; MT-436 (with post-war roundels) in overall olive green; MT-431 with black camouflage pattern added to the standard German scheme; and MT-422 in the standard Finnish camouflage of black/olive green/light blue grey (with post war roundels). Stencilling provided in Finnish since "mixing Finnish and German lan-

guage was not allowed".

**AC 029 Messerschmitt Bf 109 G-2 & G-2 JaBo (1/72)**. Decals and drawings for nine 109s: MT-212, MT-213, MT-216, MT-219, & MT-220 in standard German day fighter scheme; MT-222 with fuselage in olive green but the wings in standard German RLM 74/75; MT-213 again, but now in standard Finnish camouflage; and MT-230 & MT-207 in standard Finnish camouflage but with post-war roundels.

**AC 030 Messerschmitt Bf 109 G-6 & G-6 JaBo (1/48)**. Decals and drawings provided for four 109s: MT-415, MT-425, and MT-433 in standard German scheme; and MT-431 with black camouflage pattern applied to standard German scheme.

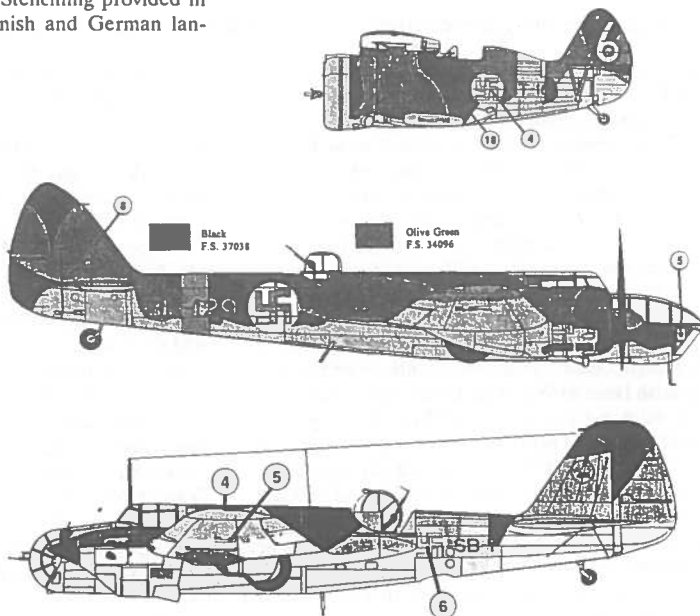
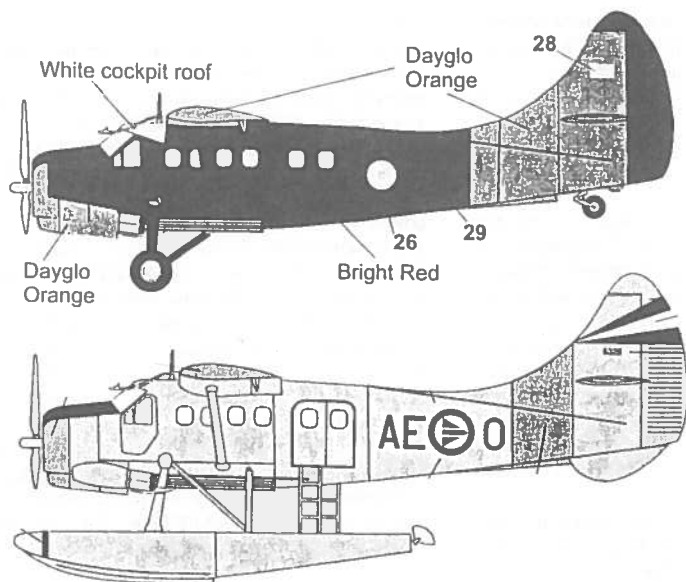
**AC 031 Bristol Blenheim Mk.I & IV (1/48 scale)** The instruction sheet provides drawings (side and top views) for two Blenheim I: BL-111 & BL-149 both in black and olive green over silver dope; and two Blenheim IV: BL-201, BL-129 (both side shown). The first in black and olive green over light blue grey and the second in black and olive green over silver dope. Drawings are included (with cross sections) showing the enlarged bomb bays fitted on the Finnish Mk.I and the camera installation on BL-129.

**AC 032 Tupolev SB-2M100 & -2M103 (1940-44)** (1/72 scale) The instruction sheet provides drawings (side and top views) for 13 SB-2s: SB-8 and VP-8 both the black and olive green but the first over light blue grey and second over silver dope. The liquid-cooled engined SB-2 without turret are VP-4, VP-2, VP-2, & VP-10 (the latter in overall gloss light grey (all the others are black and olive green over either silver dope or light blue grey). The liquid-cooled SB-2 with turret are SB-9, SB-13 (with upper surfaces painted over with removable white paint), SB-20, SB-12, SB-13, SB-5, & SV-10.

Prices are 35 fmk each directly from InScale 72. [Ed: At the exchange rate as of 16 November 2001, 35 fmk = \$5.20. If you order from Finland, send cash and include extra for postage.]

Pentti writes that sheet AC033 (DB-3) will be available in the near future.

Review decals kindly provided by Pentti Manninen of InScale 72.



"I received the latest issue (#99) of Small Air Forces Observer a few days ago, and as always, it's a fine piece of work. I was particularly interested in the article on "Liberation of the Philippines: A Mexican Pilot's View of the Air War in the Pacific," by Santiago A. Flores. On pages 82-83, Mr. Flores recounts several air support missions flown by the 201st Fighter Squadron of the Fuerza Aerea Expedicionaria Mexicana in support of ground operations in northern Luzon, the 20 June strike apparently occasioning some complaints from the American ground forces. In a remarkable coincidence, when the issue arrived I had just been reading a report from the infantrymen's point of view of a very similar incident involving the Mexican fighter bombers in Charles Henne's self-published reminiscence, 'Combat Story'. Henne was an officer in the 148th Infantry Regiment of the 37th Division, and he assumed command of the first battalion on 15 June 1945. His book, which unfortunately is not widely available, is a detailed, day-by-day account of his experiences based on his diary and regimental operations records. My father was a private in the first battalion of the 148th (companies B and D) during the Luzon campaign, so all this of course is of particular interest to me. "Since most aviation-related materials contain little from the 'ground side' of such operations, I thought SAFO readers would be interested in Henne's account of the attack made by the first battalion of the 148th near the barrio of Lantap on the Lamuet River northwest of Bagabag on 10/11 June 1945:

Ahead of our Battalion on the road [Highway 4], the 1/148th was given the mission of blocking Route 4 and securing a bridgehead over the Lamuet River. Upon reaching the near bank of the Lamuet, the leading elements of the battalion ran into heavy 47mm, mortar, and machine gun fire from across the river. Dug-in on the far bank [was] an estimated rifle company, reinforced, occupying good positions controlling the old bridge site. After pounding the Japs [sic] with air and artillery, the battalion held on the south bank for the night. During the night the 1/148th prepared to cross the fordable river at first light, and called on supporting air and artillery to hit the Jap position. At dawn after the air strike and artillery preparation Company C charged across the river and overran the battered Japanese positions. The resistance on the far bank was light to moderate and it was evident that many of the Japs had been killed in the open - out of their holes. The battalion's attack was not only successful, casualties light, but when mopping up the body count totaled 103 dead Japs. Among the battle debris were 10 light tanks, 10 trucks, and several 20mm anti-aircraft cannon. The battalion held at Lantap until relieved by the 20th Infantry.

Although the fight was won by the 1/148th, most of the men occupying forward positions were anything but happy about their air support. From what I was told later, the original strike was executed by American P-51 pilots and on target. However, as they were finishing a flight of Mexican P-47's in the area wanted a piece of the action. The Division's air controller, operating aloft in an L5, had innocently vectored them onto the targets. Their first run was close to the [friendly] troops but not dangerously close, but each following run was closer and then too close. Screaming Yankee to stop the Spanish-speaking Mexican pilots was futile, for the airwaves were filled with Spanish and the

air controller was no linguist. Relief came when the Mexican warriors ran out of munitions and headed home, chased by a lot of cussing by 1/148th ground-pounders. For some time after that air mission requests went in with the stipulation - American pilots only. (Combat Story, Part IV: Reduction of the Shobu Group, Chapter 19, pp. 5-6.)

"At the time of the above incident, Henne was Executive Officer of the 148th's third battalion, located several miles away. Since his knowledge of the episode is based largely on what he was 'told later,' the possibility exists that the GIs' complaints were associated with the wrong ground action and thus may have involved the June 20 incident recounted by Mr. Flores. The 37th Division history makes no mention of such a problem during the air strikes associated with the first battalion's June 10/11 attack, although of course it is a far more generalized description of operations. Since Mr. Flores has covered the operations of the 201st Sq. more comprehensively in his other fine writings, perhaps additional reading will shed further light on this.

"Henne notes that because of continual air harassment the Japanese avoided daylight road movement - with a few disastrous exceptions, one of which Mr. Flores' article recounts. Henne also observed that the Japanese did not have or utilize much anti-aircraft weaponry when in fixed positions, 'thereby giving the flyboys a free ride.' Readers may also be interested to know that in addition to the occasional 'friendly fire' problem, P-38 Lightnings were unpopular providers of air support for US troops on Luzon. All too often these aircraft experienced hung-up bombs that the pilots tried to 'shake off' without much regard for which forces they were flying above. After an errant bomb destroyed one of the 148th's HQ jeeps during the battles for Baguio in April, Regimental command asked that only P-51 units fly air support missions in their sector. Combat was difficult enough without such unnecessary dangers. The 37th Division history recounts that an Army pilot on a liaison visit to the front, after 'stumbling over' dead Japanese, told the infantrymen, 'This is the first Jap I've seen, and I've bombed plenty of them. The war down here is damn personal, isn't it?'

"Thanks again for a terrific issue of SAFO, and keep up the good work!

P.S. My book, American Volunteer Group Colours and Markings is slated for release by Osprey Publishers in late December. It's a much revised and updated edition of the work originally found in my little 'Sharks of the Air' booklet."

Terrill Clements (SAFCH #2440), 1957 6th Ave. West, #1, Seattle, WA 98119-2870, USA.

"I suppose you have heard what this lunatic Labour and Alliance government is doing to the RNZAF -- scrapping the entire fast jet force, combat Skyhawks, and Aermacchi trainers alike. Even recent world events have not shaken these fools from their stated belief that NZ faces "a benign strategic environment" in the Pacific region, and thus does not need expensive combat aircraft. This is in spite of several recent wars, coups, and general unrest in the area. Plus Afghanistan. As you might guess, I am not a big fan of this government. Anyway, here are a few news items you might find useful.

"The NZ government has offered the SAS in a

combat role in Afghanistan, but is not saying anything about their deployment, even if they have actually gone. They have also decided to send a 40 Squadron Hercules, but only for non-combat humanitarian aid work. This should be in Afghanistan by January 2002. Other non-combat units may be sent.

"The present NZ government intends to withdraw the entire RNZAF Skyhawk combat and MB339 trainer fleets in December 2001, and sell them. In an effort to prevent this a group called 'Save Our Squadrons' applied for a court order to delay the disbandment until the decision could be re-considered. The application was made in the High Court in Wellington, on 15 November 2001. The judge rejected the application a few days later, saying that the Defence Act specified that New Zealand have an Air Force, but that how it was run, and whether it had a combat element, was a matter of government policy. So by mid-December the RNZAF will comprise only a small fleet of five Hercules and two Boeing 727 transports; six Orions; just over a dozen Iroquois helicopters (some of which are still in East Timor); a few Sioux training helicopters; and five SH-2G(NZ) Super Seasprite naval helicopters. The 13 CT-4E Airtrainers and three Beech King Airs are on lease, and not actually owned by the RNZAF.

"A planned upgrade of the Orion's ASW gear, Project Sirius, was cancelled by the government earlier in 2001, they will instead only get a navigation and communications upgrade. They might get an anti-ship missile capability to replace the Skyhawks in the maritime strike role. However, this has been suggested several times over the last twenty years or so. Project Kestrel, to fit the Orions with new wing and tail components to extend their lives, is now complete.

Still no word on replacements for the Sioux or Hercules, but there should be some new jet transports to replace the Boeing 727 VIP jets as these will soon no longer meet international noise regulations."

Paul Adams (SAFCH #773), 14 Walters Road, Mt Eden, Auckland, New Zealand.

"Thank you very much for the review of my profile of the Albatros D-II (Part I) in SAFO #98. Unfortunately, the publisher, Flugzeug, has gone into bankruptcy and it is uncertain where or when the second part will be published. This second part was to include nearly 100 more b&w photos, about the same number of colour drawings as the first part, and big chapters on the pilots, the curriculum vita of all Austro-Hungarian Albatros D-II (Oef), the opponents of the D-II, the colouring schemes used, and reviews of the plastic, resin, vacuumform, and radio-controlled kits of the D-II.

"I am including with this letter a brochure commemorating the 'the last farewell' of the Augusta-Bell AB 204B of the Austrian Army Air Force. This booklet was made for the Austrian Army and is not available in bookshops."

Rudolf Hoefling, Franz Koci-Strasse 4/12/23, 1100 Vienna, Austria.

[Ed: One copy of the AB 204 booklet is available from the SAFCH Sales Service on a first-come-first-served bases.]

